DOCUMENT RESUME

ED 377 252 TM 022 566

AUTHOR	Hunt, E. Stephen
TITLE	Mapping the World of Education: The Comparative Database System (CDS). Volume One: Overview, Description, and Coding Structure.
INSTITUTION	National Science Foundation, Washington, D.C.; Office of Educational Research and Improvement (ED), Washington, DC. Office of Research.
REPORT NO	ISBN-0-16-045241-4
PUB DATE	Sep 94
NOTE	179p.
PUB TYPE	Reports - Descriptive (141) -- Reports - Evaluative/Feasibility (142)
EDRS PRICE	MF01/PC08 Plus Postage.
DESCRIPTORS	*Coding; Comparative Analysis; Comparative Education; *Data Analysis; Database Design; *Databases; Data Collection; Doctoral Degrees; Documentation; Elementary Secondary Education; Foreign Countries; *Higher Education; *Postsecondary Education; *User Needs (Information)
IDENTIFIERS	*Comparative Database System; *International Surveys; Mapping; Survey of Earned Doctorates

ABSTRACT

The Comparative Database System (CDS) provides a means for coding and using data on U.S. and international postsecondary educational activity and behavior. CDS permits education-data users to obtain accurate and reliable comparative data on postsecondary education questions. This document contains a discussion of the development of CDS, a detailed technical description of CDS and its relation to other databases, and advice about its use. CDS was developed as a systematic means for reporting and analyzing data provided by respondents to the Survey of Earned Doctorates (SED), but it can be used whenever comparative and international institutional or individual data need to be organized and analyzed. Section 1 is the overview and description background and development; concepts, definitions, and methodology; and implementation), while Section 2 (half the document) contains the data codes used in CDS (geographical regions, countries, country subdivisions, primary language of instructor, standard program types, institutional types, and standard program completion awards and institutional levels (Contains 245 references.) (SLD)

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MAPPING THE WORLD OF EDUCATION

THE COMPARATIVE DATABASE SYSTEM (CDS)

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MAPPING THE WORLD OF EDUCATION

THE COMPARATIVE DATABASE SYSTEM (CDS)

VOLUME ONE

OVERVIEW, DESCRIPTION, AND CODING STRUCTURE

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September 1994

For sale by the U.S. Government Printing Office
Superintendent of Documents, Mail Stop: SSOP, Washington, DC 20402-9328
ISBN 0-16-045241-4

Acknowledgements

The development of CDS and this publication have benefitted from the extraordinary expertise and resources of several individuals and organizations.

Within the Department of Education, Joseph C. Conaty, Acting Director of the Office of Research, OERI, lent active support to this project, as did Clifford Adelman and Nevzer G. Stacey, successive Directors of the Higher Education and Adult Learning Division. Duc-Le To of the Office of Research, OERI, contributed to the translation and interpretation of the educational terminology and concepts used in several East and Southeast Asian countries. Robert L. Leestma of OERI reviewed CIDS in detail and provided extensive advice based on his long experience in comparative education research and policy. Jeanne E. Griffith and Nancy B. Schantz of the National Center for Education Statistics reviewed the CDS design and the draft publication and made useful suggestions for technical improvements. Karen L. Wenk of the Office of Postsecondary Education, and Stewart Tinsman and Samuel McKee of the Office of Intergovernmental and Interagency Affairs, made available special reference resources and assisted in establishing important contacts overseas.

The National Science Foundation has been instrumental in supporting this project and insuring both its success and its dissemination. In the NSF Division of Science Resources Studies extraordinary support and assistance were provided by several persons including Albert Tupek (Deputy Director), Jennifer Sue Bond (Chief, Indicators Branch), Mary Golladay (Chief, Education Studies Branch), Linda Hardy, Susan T. Hill (project officer for the Survey of Earned Doctorates), J. G. Huckenpöhler, and Jean M. Johnson. Raymond L. Wanner of the U.S. Department of State, Directorate for International Organizations, provided valuable information on United States policy toward international educational databases and educational issues.

Certain foreign embassies and governments also need to be acknowledged for their assistance in clarifying specific issues and providing special information pertaining to their national systems of education. These include the U.S. embassies of Australia, France, Israel, Japan, Norway, the Philippines, Saudi Arabia, and the United Kingdom; the Ministries of Education of Austria, Belarus, France, Italy, and Thailand; the Indian Government Department of Science and Technology; and the Accrediting Association of Universities and Colleges of the Philippines.

Nongovernmental individual experts who have given of their time, expertise, and resources in reviewing sections and drafts and providing technical assistance include

Wayne Becraft, *Executive Director, American Association of Collegiate Registrars and Admissions Officers (AACRAO)*
Karlene Dickey, *National Council on the Evaluation of Foreign Educational Credentials and Projects for International Education Research (PIER)*

Jeanne-Marie Duvall, *Senior Director, Educational Programs Division, National Association of Foreign Student Advisors (NAFSA)*
Franz Eberhard, *Secretary-General and Director, International Association of Universities (IAU) and International Universities Bureau (IUB)*
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Introduction[1]

The Comparative Database System (CDS) provides a means for coding and using data on U.S. and international postsecondary educational activity and behavior. CDS permits education data users, including researchers, policymakers, and the public, to obtain accurate and reliable comparative data on postsecondary educational questions such as the flow of students through educational systems, the level of education attained, the type of subjects studied and programs completed, the characteristics of students and institutions, and the detailed geographical patterns of student migration.

Mapping the World of Education: The Comparative Database System (CDS) contains a discussion of the development of CDS, a detailed technical description of CDS and its relation to other international and comparative databases and systems, and advice regarding its use.

CDS is a product of a joint research project between the U.S. Department of Education and the National Science Foundation. While developed specifically to support the Survey of Earned Doctorates (SED) and related surveys, the data coding system described in this publication has other possible applications and may be used whenever comparative and international institutional or individual data need to be organized and analyzed. CIDS is adaptable for autocoding procedures and is the standard system used by the National Science Foundation (NSF), the National Research Council (NRC), and the Bureau of the Census (BC) for collecting, analyzing, and publishing comparative and international data at the federal level.[2] It is being implemented, as of the 1995–1996 academic year, for the Survey of Earned Doctorates (SED). CDS supersedes previous coding systems used to report and analyze comparative and international data collected via SED.

The Utility and Importance of Comparative and International Data

The United States Government undertakes a wide variety of domestic and international activities that make use of, generate, or are dependent upon comparative and international education data. Among the important reasons for these activities are the following:

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[1] The author of this manual is E. Stephen Hunt, a senior research analyst in the Higher Education and Adult Learning Division of the Office of Research. He is also the author of the companion volume *A Guide to the International Interpretation of U.S. Education Data: CIP, CCD, IPEDS and ISCED* (Washington: U.S. Department of Education, 1992); and is a co-author of the *Classification of Instructional Programs: 1990 Edition* (Washington: U.S. Department of Education, 1991).

[2] The National Research Council (NRC) is an independent scientific advisory organization comprising the National Academy of Sciences (NAS), National Academy of Engineering (NAE), and the National Institute of Medicine (NIM). NRC serves as the contractor for conducting the annual SED survey and maintaining the database. The contract is let by the National Science Foundation (NSF), a federal agency, on behalf of itself and four cognizant agencies: the U.S. Department of Education (USED), U.S. Department of Agriculture (USDA), National Endowment for the Humanities (NEH), and National Institutes of Health (NIH —a branch of the U.S. Department of Health and Human Services).

- Supporting research and policy-making related to educational reform and improvement in the United States, including the National Education Goals pertaining to mathematics and science education and to adult literacy and lifelong learning);
- Studying education developments around the world insofar as these affect American competitiveness in the global economy and inform American practice, including research and development activities, workforce preparation and continuing development, and educational standards and quality;
- Providing accurate data concerning international student flow patterns regarding foreign students who come to the United States to study as well as Americans who pursue education abroad;
- Facilitating the exchange of educational data in mutually useful formats under the auspices of extant treaties, agreements, and arrangements, both formal and informal; and
- Developing a deeper understanding, from a cross-national perspective, of the interrelationships among educational, social, civic, and public policy and economic issues.

Supporting these research missions and policy goals requires accurate information on educational institutions and systems as well as student characteristics and experiences. Since most temporary student migration and exchange[3] occur at the postsecondary educational level, it is particularly important to insure that this level of education is adequately studied.

The Global Education Marketplace

Few countries in the world are as extensively involved in international education as is the United States. Americans involved in this global exchange and the foreign students, employers (U.S. and overseas), and governments that participate have been aware of something that has only recently engaged public attention: the reality of a global marketplace for talent and knowledge.

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[3] Temporary student migration and exchange are terms referring to individuals who pursue educational opportunities outside their home country, usually by means of a temporary student visa or as part of a bilateral or multilateral academic exchange arrangement. Temporary student migration and exchange may be contrasted with immigration, where a person who may have been educated elsewhere seeks permanent residency or citizenship in the host country. Comparative education research is applicable to both types of situations.

Students who come to the United States from overseas generally fit into one of three statistical classifications based on residency status: *immigrants*, who enter with the intention of becoming U.S. citizens; *resident aliens*, who obtain permission to settle permanently in the United States and seek employment, and who may or may not eventually seek U.S. citizenship; and *nonresident aliens*, who enter the United States for a limited amount of time and for a specific purpose, such as education, and who do not intend to settle permanently or apply for citizenship. Immigrants are not usually counted as part of the foreign population except in studies of population origins. Resident aliens are sometimes counted as part of the foreign student population depending on the scope of a particular study. If, for example, the study aims to include every student who is not a U.S. citizen, then resident aliens and nonresident aliens will be counted. Usually, however, analyses concentrate on foreign students (non-U.S. citizens) who will not stay in the country permanently, and thus most statistics on the foreign student population refer to the nonresident alien classification.[4]

Even under the narrowest interpretation, the size and scope of U.S. involvement in the global education marketplace are large. As of 1991, 2,543 American community colleges, 4-year colleges, and universities (out of a total of 3,559 higher education institutions) reported the enrollment of one or more nonresident alien students.[5] These numbers mean that in 1991 some 71.5 percent of all U.S. degree-granting postsecondary institutions hosted such students. The 1991 data show that in that year 416,400 foreign students were enrolled out of a total enrollment of 14,359,000, or just under 3 percent of the total (2.9 to be exact). However, this proportion differs significantly at different educational levels. Two-year postsecondary institutions enrolled only 73,500 foreign students in 1991, a number representing 1.3 percent of all community and junior college enrollees. Foreign students represented 2.4 percent of all undergraduate enrollees at 4-year institutions in 1991 (160,100 out of 6,787,400); and 2.1 percent of enrollees in first-professional degree programs and institutions (5,800 out of 280,500). By comparison, foreign student enrollment in graduate schools in 1991 (master's, specialist, and doctoral degree programs) equaled 10.8 percent of all graduate students in the United States (177,000 out of 1,639,100). The numbers and percentages for foreign enrollments have been increasing over the years and may be expected to continue to do so in the near future.

The majority of these foreign degree-earners are graduate students, and the majority of them complete programs in the science and engineering disciplines. More than 26,000 bachelor's degrees, 34,000 master's degrees, and 11,000 research doctorates are being awarded to non-U.S. citizens each year.[6] Among the recipients of U.S. doctoral degrees in 1992, the most recent reporting year, awards to non-U.S. citizens accounted for 30.5 percent of the total of 11,846 degrees, with resident aliens comprising 5 percent and holders of temporary visas (nonresident aliens) 25.5 percent. These foreign graduates obtained 40.2 percent of all U.S. doctorates in the physical sciences, 42.1 percent of all engineering and applied sciences doctorates, 24 percent of all life sciences (biological, health, and agricultural sciences) doctorates, 12.5 percent of all social and behavioral science doctorates, 19.5 percent of all humanities doctorates, and 17.8 percent of all professional (education, business, other fields) doctorates.[7] In other words, degree awards to foreign students account for over 10 percent of every broad subject matter category at the doctoral level, including one-fifth of all humanities degrees, over one-tenth of all social and behavioral sciences degrees, one-fourth of all life sciences degrees, and nearly one-half of all physical science and engineering degrees.

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[4] In this volume the terms "nonresident alien" and "foreign" are used synonymously.

[5] The numbers refer to institutions of higher education offering programs leading to postsecondary degrees, not to all U.S. postsecondary institutions. For example, the total number of U.S. postsecondary institutions included in the U.S. Department of Education's Integrated Postsecondary Education Data System (IPEDS) statistical universe as of academic year 1991–92 was 9,983; 3,601 degree-granting higher education institutions and 6,382 other institutions offering nondegree instruction. See Thomas D. Snyder and Charlene M. Hoffman, *Digest of Education Statistics: 1993* (Washington: U.S. Department of Education, 1993), Table 232: "Institutions of Higher Education, by Control and Type of Institution: 1949–50 to 1992–93," p. 240, and Table 347: "Number of Noncollegiate Institutions Offering Postsecondary Education, by Control and State: 1991–92 and 1992–93," p. 350.

Available data also show that the United States sends a large and growing number of its citizens to study overseas. For 1991, data published by the United Nations Educational, Scientific, and Cultural Organization (UNESCO) revealed that 25,071 U.S. citizens were enrolled in overseas programs leading to a degree or other award. The 10 host countries accepting the largest numbers of degree-seeking U.S. citizens were the United Kingdom (5,401), Germany (4,207), France (4,207), Canada (2,972), China (1,377), Japan (941), Australia (626), Republic of Korea (536), Spain (532), and Italy (512). Unfortunately, data are not currently available on the number of these migratory American students who earn foreign awards each year, or the proportion who complete the programs in which they enroll. There is no doubt, however, that the number of U.S. citizens enrolling in foreign degree programs has been increasing. Data reported to UNESCO in 1981 indicated that 19,692 Americans were enrolled in degree programs in foreign institutions. The 1991 number therefore represented a 21.5 percent increase over the 1981 data.[8]

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[6] J. G. Huckenpöhler, *Foreign Participation in U.S. Academic Science and Engineering: 1991*, Special Report NSF 93-302, Surveys of Science Resources Series (Washington: National Science Foundation, February 1993), pp. 5–30. Comparable figures reported by the National Center for Education Statistics (NCES) differ slightly due to differences in survey methodology and date of data collection during the academic year. The Program Completions Survey conducted as part of the IPEDS system of surveys reported more than 29,000 bachelor's degrees, 36,000 master's degrees, and 9,700 doctoral degrees earned during the 1990–91 academic year. See *Digest of Education Statistics: 1993*, Tables 255, 258, and 261.

[7] Paula Ries and Delores H. Thurgood, *Summary Report 1992: Doctorate Recipients from United States Universities* (Washington: National Academy Press, 1993), Appendix Table A-3, pp. 52–53.

[8] UNESCO, *Statistical Yearbook/Annuaire statistique/Anuario estadístico 1993 and 1984*, (Paris: United Nations Educational, Scientific, and Cultural Organisation, 1993 and 1984), Tables 3.15 (1993) and 3.16 (1994). The data reported to UNESCO refer only to students who would be classified as nonresident aliens (nonpermanent foreign residents) in the United States, and in general only to those enrolled at university-level institutions. While the tabulations are for data pertaining to 45 (1984) and 50 (1993) selected countries, UNESCO notes that the totals given nevertheless account for approximately 95 percent of the world total.

In addition to Americans enrolled in foreign programs leading to completion awards, an even larger number participate in study-abroad programs. Such programs do not lead to foreign postsecondary awards and usually do not earn foreign academic credit. Most study-abroad programs are organized by American colleges, universities, or educational organizations[9] and last from a few days to a year, and may result in academic credit recognized by a U.S. institution. A smaller number of such programs arrange for participating students to enroll directly in foreign institutions and then award credit for the experience upon the students' return, while a few make other arrangements. The Institute for International Education (IIE) reported that 62,341 U.S. citizens were enrolled in study-abroad experiences for credit during the academic year 1987–1988.[10] This number includes only students who received U.S. academic credit (the total of all Americans going abroad for credit and noncredit experiences is unknown but undoubtedly higher).

The above examples help to demonstrate that the global education marketplace is very much a two-way street. This pattern of international migration, exchange, and interdependency is likely to intensify rather than decline.

The size of the global sector of American postsecondary education has important economic and policy implications. These include

- The emergent demographic dominance of some program fields, such as various engineering specialties, by foreign students, a phenomenon with supply and demand implications for the U.S. job market;
- The economic importance of international student migration to U.S. postsecondary institutions and their sponsors (including State governments), as signified by the size of the foreign student population, the income derived therefrom, and the amount of faculty, program, and facilities support thus provided;
- The importance of providing opportunities to study in the United States as an instrument of U.S. foreign policy, evidenced in part by the funds devoted to sponsoring U.S. study by Federal agencies[11];

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[9] Study-abroad and exchange programs for secondary (high school) students also exist, but these are beyond the scope of this study.

[10] IIE/Zikopoulos, *Open Doors*, 1988, pp. 80–83.

[11] Summary budget figures for major Federal assistance programs wholly or largely devoted to international educational exchange may be found in: *Budget of the United States Government: Fiscal Year 1994*, 103rd Congress, 1st Session, House Document 103-3 (Washington: Office of Management and Budget, 1993), FY 1992 Actual Expenditures. A listing of all Federal programs involved with exchanges appears in: Advising, Teaching, and Specialized Programs Division, *Directory of Resources for International Cultural and Educational Exchanges* (Washington: U.S. Information Agency, 1992). Major public and privator sector support and leadership resources in international exchanges are listed in: Jynks Burton, Ed., and Foster K. Tucker, Principal Ed. Consultant, *International Exchange Locator: A Guide to U.S. Organizations, Federal Agencies, and Congressional Committees Active in*

- The growing importance of the flow of U.S. students abroad, including such issues as the reasons for outmigration, the quality and kind of knowledge and skills they bring back, and potential "brain drain" developments; and

- The benefits realized from international educational exchanges to the United States, including increased goodwill and contacts, cross-fertilization of learning and research, enhanced reputation, the acquisition of highly productive new residents and citizens, and improved competitive position in the global economy.

Studying and tracking this activity is important to the national interest, especially in the context of the National Education Goals and intense interest in both educational and economic reform.

The Relevance of Comparative Background Data to Current Issues

Background data on the education of U.S. and non-U.S. students who study in America, and the institutions they have attended and the programs they have completed, help to answer several important research and policy questions.

- When do students complete secondary education and begin postsecondary studies?

- What types of postsecondary credentials do students earn, from what types of institutions and in what fields?

- How long do postsecondary studies of different types take to complete, and how long do students from different backgrounds and with different academic histories take to complete them?

- Where do students who migrate, both intra- and internationally, come from, where have they studied before, and where do they go to seek further education?

- Do students change their fields of study as they progress and, if so, are patterns evident in relation to different majors, future plans, or other characteristics?

- Do the postgraduation employment plans of students bear any association to their backgrounds and academic histories?

International Educational Exchange (New York: Academy of Educational Development/IIE Liaison Group for International Educational Exchange, 1991).

- What are the sources of support for students, the pattern and distribution of that support across space (programs, institutions, and countries) and time (over the years), and are these resources being used effectively?

- What other patterns are revealed from the data?

Answers to these questions are generally available for students who have begun and completed their entire educational experience in the United States and in other countries. They are not often available from a comparative perspective, however, and especially not for the growing number of students who migrate internationally during their academic careers. It is important to fill this knowledge gap for three reasons.

1. The United States hosts a large and growing number of foreign students, especially at the graduate level, whose academic backgrounds deserve studying. The number of such students is now nearly one-third of all students completing research doctorate programs in the United States.

2. The presence of a significant number of foreign students engaged in educational programs that are identical to those pursued by U.S. citizens provides a unique opportunity for comparative analysis of educational backgrounds and how these may influence educational outcomes.

3. International student migration is increasingly a two-way street, with growing numbers of Americans studying abroad in addition to the many foreign students who study in the United States. Data on migrating students are needed in order to assess this important international development and to promote the exchange of information between donor and host countries.

An opportunity to answer the research questions stated above exists in the form of the Survey of Earned Doctorates (SED), an annual census of U.S. and foreign graduate students who earn research doctorate degrees at U.S. universities, and the related Survey of Doctorate Recipients (SDR), an annual follow-up survey of U.S. doctorate recipients one year after completing their degrees and entering the workplace. As this report shows, SED provides researchers, policymakers, and the public with a rich source of information on the background, experiences, and future plans of these students.

Providing a Useful Comparative Database

Data collected via SED on foreign respondents' academic backgrounds ceased to be regularly encoded in 1968. The data were partially coded from that year until 1974, when encoding ceased altogether. Incomplete and irregular attempts to update the foreign institution code listings have been made since that time, usually targeted at specific countries that have shown significant increases in the numbers of their citizens coming to the United States to study. Because all of the raw data collected since 1967 are retained on microfiche, they are not lost. What has been missing until now are the recognition that these unique data are important to the nation and the means for making them available to researchers and policymakers in an accurate and useful form.

The database system used prior to the cessation of international data coding in 1974 was unsatisfactory for a variety of reasons and is now obsolete. That system coded data on U.S. students and institutions separately from data on foreign students and institutions, making comparisons difficult and expensive. It was a limited system that provided data on relatively few non-U.S. institutions and no data at all on institutional characteristics. The proliferation of new institutions, changes in educational systems and to the political status of countries, changes in student migration patterns, and increased knowledge since the late 1960s and early 1970s render the old database system inadequate for current and future applications. Occasional efforts to update portions of the old system were made, but these efforts—especially in regard to foreign data—were intermittent.[12]

An intensive review of data needs has led the National Science Foundation and the U.S. Department of Education to replace the old database system and to develop CDS in order to do so. The cessation of most international data coding, and the technical problems connected with the system and procedures used until now, have prevented SED from being used as a comparative research tool and thus realizing its full potential. SED is one of the few U.S. databases that covers both U.S. and foreign students in isolable and comparable detail. It includes statistically significant cohorts of both foreign and domestic individuals from different backgrounds who are engaged in the same educational experience, in the same system, at the same time. Background data are collected for all respondents. All that is needed to take advantage of this research opportunity is a valid and reliable way to record and analyze the data. That is the task which CDS is designed to accomplish.

In addition to supporting SED, CDS is adaptable to a wide variety of additional uses where comparative and international data are concerned. CDS provides

1. A complete coding structure for all known countries of the world, subdivisions of major countries, and chief locations (cities and towns) of postsecondary educational activity;

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[12] Office of Scientific and Engineering Personnel (OSEP), *Codes for Educational Institutions in the United States and Possessions*, (Washington: National Research Council, no date); OSEP, *Codes for Educational Institutions in Foreign Countries*, (Washington: National Research Council, September 1989); OSEP, *Survey of Earned Doctorates Questionnaire Coding Manual*, (Washington: National Research Council, unpublished/annual); and OSEP, *Tape Documentation File: 1920-1990 Doctorate Records File*, (Washington: National Research Council, September 1991). NAS/NRC uses SED data to track research fellowship holders, hence the historical presence of nondegree-granting organizations in the institutional database. These organizations approve travel arrangements and/or sponsor fellows.

2. A complete coding structure for all known secondary and postsecondary degrees, diplomas, and certificates of every national education system, linked to both the International Standard Classification of Education (ISCED) and prevalent recognition practice among U.S. institutions;

3. A complete coding system for educational programs; and

4. A complete coding structure for all known postsecondary institutions throughout the world, including pertinent data about institutional type, level, location, and primary language of instruction.

United States data are included in CDS as well as foreign data, thus making possible direct statistical comparisons. This system will, for example, permit access to specific comparative data on topics such as teacher education, vocational and professional education, secondary school qualifications, subject-specific questions, and scientific and technological education. When used together with survey data such as that provided via SED, the system permits analysis of flow patterns, trends, persistence, program completions, linguistic capabilities, migration, changes in subject, financial support, outcomes, and career plans on a cross-national basis.

SECTION ONE:

OVERVIEW AND DESCRIPTION

CHAPTER 1

Background and Development of CDS

Data on foreign enrollments in U.S. postsecondary education are collected and published by the National Center for Education Statistics (NCES), the National Science Foundation (NSF), the National Research Council (NRC), and the Institute of International Education (IIE).[13] Of these major data sources, only NCES and NSF collect and publish regular data on program completions and U.S. awards received by foreign students. Among the most important databases providing such information are the Integrated Postsecondary Education Data System (IPEDS),[14] conducted by NCES, and the Survey of Earned Doctorates (SED), conducted by NSF.[15]

IPEDS collects data on nonresident aliens who enroll in and complete postsecondary programs in the United States. These data are capable of being broken out by country if and when reported at that level of detail. No data on student backgrounds, characteristics, or future plans are collected via IPEDS other than gender and age. It is important to note that IPEDS data are collected via surveys sent to State Higher Education Executive Officers (SHEEOs), who are usually the directors of a given State's higher education oversight and coordination authority (plus community college oversight bodies where these are separate), and in some cases directly to institutions. The data reported—whether from the State or institutional level—originate in the institutional research offices of cooperating institutions. Thus the methodology of IPEDS is to survey State and institutional administrations and the resultant data accurately reflect this perspective. By comparison, the methodology of the Survey of Earned Doctorates (SED) differs from IPEDS in that SED is a direct survey of students who are at the point of degree completion.[16]

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[13] IIE is a private nonprofit educational organization which promotes international educational exchanges and tracks the enrollment of foreign students in the United States and American students abroad. Data collected via IIE enrollment surveys are published annually. See Marianthi Zikoupulos, Ed., *Open Doors: Report on International Educational Exchange* (New York: Institute for International Education, annual).

[14] IPEDS is a battery of annual census surveys that collect data on enrollments, completions, finance, and facilities from U.S. postsecondary institutions and State higher education oversight agencies. Data thus collected are available on tape as well as published by NCES in various forms, including the annual *Digest of Education Statistics* and *The Condition of Education*, as well as topical reports published in the *E.D. Tabs* series.

[15] The National Research Council (NRC), using the staff and resources of the National Academy of Sciences (NAS), is the contractor for SED. IPEDS is contracted to the U.S. Bureau of the Census by NCES. In addition to IPEDS, other NCES databases containing collected data on foreign students and former students who study in the United States and work here include the National Postsecondary Student Aid Study (NPSAS), the Recent College Graduates Survey (RCG), and the National Survey of Postsecondary Faculty (NSOPF).

SED is an annual census of all candidates for research doctorate degrees in U.S. universities. Administered annually since 1958, the SED has compiled a remarkably detailed database on students who have reached this level of education, including data on the country of birth, citizenship, and residence of each respondent (including the town and regional subdivision in many cases); and data on previous degrees earned, where, and in what subject(s)—all the way back to secondary graduation. SED has a far broader importance than its name implies because the database provides such an extensive record, over many years, of students' histories, socioeconomic information, demographic characteristics, and financial and work-related information. The survey includes both U.S. and foreign citizens who earn American doctorates. Since foreign citizens now number between 20 and 30 percent of all U.S. doctorate recipients, SED provides a rich source of comparative information.[17]

The population surveyed via SED comprises all U.S. citizens, resident aliens, and nonresident aliens who have passed the final examinations for research doctorates at U.S. postsecondary institutions and are about to be awarded their degrees. Response rates have averaged over 95 percent annually for both U.S. and foreign respondents. There have been slight changes to the survey instrument since 1958, but basic data elements have not changed. Response rates for each survey item have been very high; none have fallen below 80 percent, and foreign students have responded to all items at rates similar to American students.[18]

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[16] Users of these surveys should be aware of why these important differences in methodology exist and how they affect published results. A survey of institutional data, such as IPEDS, will obtain statistics as compiled by administrative offices and thus will reflect the guidance under which they operate. For example, program completion data will reflect the titles of degrees that institutions are legally authorized and accredited to award, such as history and physics. They will not necessarily reflect the specializations within these broad degree categories that students and faculty recognize, such as European History or Particle Physics, unless these are separate authorized programs. By contrast, students and faculty who may respond to a survey such as SED or SDR will tend to report their specializations, especially if asked what they are concentrating in or researching. These different sample populations—students, faculty, and institutional administrators—may therefore produce different responses to what superficially appears to be the same question but in fact is not.

It is important for research and policy purposes to ask the different questions that IPEDS and SED ask, and to address these questions to different audiences. Institutions and States are arguably in the best position to report information on overall trends and current facts concerning authorized degree programs, budgets, staffing patterns, facilities, and the like. What they report will correspond to their official definitions and be aggregated within defined categories. Likewise, faculty and students are arguably in the best position to report on what is going on within their fields and what is happening to them in terms of academic experiences. Both types of information are useful, and the fact that the resulting statistics may occasionally differ reflect differences in research questions and methods.

[17] While SED has been administered since 1958, surveys of doctoral recipients have been conducted since 1920 by the National Research Council, the National Science Foundation, and the U.S. Office of Education (predecessor to the U.S. Department of Education). A synopsis of historical survey data may be found in Lindsey R. Harmon, *A Century of Doctorates: Data Analyses of Growth and Change*, (Washington: National Academy of Sciences, 1978). Historical data from early SED years may be found in Research Division, Office of Scientific and Engineering Personnel, *Doctorate Recipients from United States Universities: 1958–1966*, (Washington: National Academy of Sciences, Publication No. 1489, 1967). More recent SED data are summarized annually in *Summary Reports* prepared by the Doctorate Records File Staff, Office of Scientific and Engineering Personnel, National Academy of Sciences, and published by the National Academy Press on behalf of the National Research Council. These reports contain detailed methodological explanations and include copies of the survey instrument.

Data are collected on the origins, academic backgrounds, current program of studies, and future plans of respondents. *Origins* data include the individual's place of birth, birth date, and country of citizenship. *Academic background* data include the year of secondary school graduation and data on previous postsecondary credentials earned, comprising the title of each credential, the date it was awarded, the subject field, and the name of the institution which awarded it. *Current program* data include the name of the institution and the department (or college or faculty) in which the respondent is studying for the doctorate, the subject field of the doctorate, the date that the doctorate is to be awarded, and the title of the dissertation. *Future plans* data include the status of the respondent's job search (firm employment offer or not), the sector of planned employment (private, public, academic), whether the respondent plans postdoctoral study, and where the respondent plans to locate (country and U.S. state if applicable).

These time series data, collected on nearly all recipients of research doctorates from U.S. postsecondary institutions for over 30 years, constitute a major resource for comparative educational research. The data permit the analysis of variables concerning parallel cohorts of American- and foreign-educated individuals undergoing a similar educational experience at the same time and place under the same circumstances. Comparisons are possible regarding such issues as how different background experiences relate to students' current programs of study, educational progress, and work plans. The database provides longitudinal depth as well as comparative breadth, and is methodologically sound and statistically validated. SED and the follow-up Survey of Doctorate Recipients (SDR) data can directly support important current research on issues related to U.S. national interests, including

- Determining how products of U.S. education perform in comparison with their foreign counterparts outside an artificial testing environment;
- Determining how U.S. minority and female students perform in graduate education in relation to other groups, including foreign minorities and women;
- Mapping how students switch fields and how this affects available human resources and high-end labor planning;

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[18] Data on SED response rates are provided in an appendix to each annual *Summary Report* on SED data published by the survey contractor, the National Research Council (NRC). In addition, historical analyses of SED and predecessor survey data are discussed in two multiyear studies: Fred D. Boercker and Lindsey R. Harmon, *Doctorate Recipients from United States Universities, 1958–1966: A Statistical Portrait* (Washington: National Academy of Sciences, 1967); and Lindsey R. Harmon, *A Century of Doctorates: Data Analyses of Growth and Change* (Washington: National Academy of Sciences, 1978).

- Mapping different patterns of access to graduate studies and progress to the doctorate by type of previous education, gender, ethnicity, and subjects studied;
- Helping to answer the question of whether opportunities to study in the United States go to foreign elites or whether this assistance reaches a broader clientele, and do so by country;
- Helping to deepen our understanding of the liguistic proficiency of foreign students studying in U.S. graduate programs;
- Mapping differential outcome patterns for graduate education, including employment, migration, and supply and demand questions; and
- Linking data on graduate-level education patterns and outcomes to broader economic and social questions.

Data collected via SED reflects the fact that students come to the United States from nearly every nation and territory in the world. These students present prior credentials and biographical histories revealing a tremendous variety of experiences, including academic migration and changes in residence and citizenship. While certain nations tend to provide the most foreign students from year to year, the provider nations tend to fluctuate over time and cannot be predicted with any permanent degree of assurance.[19] From the outset, therefore, the scope of the CDS design task has had to encompass every territorial locality in the world and data on the the credentials, programs, and institutions of each known system of education.

Each graduating doctorate recipient is asked to participate in the SED census, so that data collected include most foreign as well as U.S. citizens who earn U.S. doctorates. (Follow-up data are collected for doctorate recipients who enter the teaching and research professions in America via the Survey of Doctorate Recipients (SDR).) Each respondent to SED provides data on his or her educational background prior to the doctorate (degrees, subjects, dates awarded, and awarding institution), when and where high school was completed, personal background data (permanent address, place of birth, country of residence, country of citizenship), data on parental education and work, sources of support for graduate study, field of doctoral study, date of doctorate award, and immediate plans (intended place of residence, type of work to be done, whether a job is on offer). The response rates have always been remarkably high, averaging over 90 percent each year since SED began for each item. Foreign student response rates have also been high. In

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[19] This is particularly true of the pattern of students coming from smaller nations and those that do not export large numbers of students abroad. Even the major provider nations have changed over time—witness the replacement of several European nations as major suppliers of U.S. doctoral students by Asian ones during the 1970s. See Chapter IV of Boercker and Harmon, 1967, op. cit.; Chapter 2 of Harmon, 1978, op. cit.; and the special report entitled "Non-U.S. Citizen Doctorate Recipients" in Delores H. Thurgood and Joanne M. Weinman, *Summary Report 1989: Doctorate Recipients from United States Universities* (Washington: National Academy Press, 1990).

1992 some 98.5 percent of nonresident alien respondents provided data on their country of origin; 82.1 percent provided data on postsecondary programs completed and institutions attended prior to earning the U.S. doctorate; 68.6 percent provided data on their sources of financial support; and 91.2 percent provided data on future employment and location plans.[20] These response rates are close to those for U.S. respondents and indicate that useful amounts of comparative data are being collected. Since these data have been consistently collected since 1958, the United States possesses over 35 years of potentially revealing comparative data on how American and overseas students perform in common graduate education experiences and subsequent employment in relation to their different educational backgrounds.

Handling such a large and complex array of data requires the use of classification systems capable of serving each data organization task and capable of being used as complimentary and valid components of an overall database management system. The specific classification problems needing solutions for SED data coding and analysis include

- Countries of the world;
- Jurisdictions within countries;
- Locations within countries and jurisdictions;
- Postsecondary institutions;
- Degrees and other awards; and
- Languages used to provide instruction.

Technical and Policy Considerations

The Aims of Comparative Research

Comparative research seeks to identify and analyze the similarities and differences among macrosocial units and their formal and informal institutions and systems, and by doing so to better understand social processes, explain outcomes, and interpret the significance of these developments for interested audiences. The objects of comparative research are frequently real-world entities rather than theoretical constructs, and these entities are complex and well-known units, such as whole societies. Even if the unit of analysis is at the individual or institutional level, the ultimate conclusions are aimed at a broader level of aggregation. For example, a case study of school behavior in a few selected schools in a few cities may lead to general observations about education in the societies in which the cities are located. Comparative research has tended to seek holistic explanations of complex phenomena (such as how Japanese and American students differ in learning mathematics), and comparativists have historically leaned toward qualitative methods. In part, these tendencies are due to problems that impede quantification, such as the expense and logistics of conducting research on large samples; the lack of wide variation due to few samples; and the existence of too many exceptional cases within the available samples, thus rendering them too small and complex for valid analysis. When research conditions are adequate, however, quantitative methods may be and have been used to address comparative questions.[21]

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[20] Ries and Thurgood, 1993, Appendix C, pp. 76–90.

The technical factors that hinder comparative research thus include the costs and logistical difficulties of assembling basic data; data comparability; data validity and reliability; problems of creating meaningful analytical designs for data arrays; and bias.[22] SED is important as a comparative research tool because it overcomes most of these traditional difficulties.

Sample Size. SED is a census in which the population universe and sample are the same, and that population has varied from a low of 8,770 (1958) to a high of 38,814 (1992). The U.S. citizen subpopulation has ranged in size from 8,469 (1960) to 33,755 (1973, the all-time high) while the foreign citizen subpopulation has ranged from 1,176 (1960) to 11,846 (1992). These subpopulations have each been sufficiently large in every reporting year to permit multivariate statistical analysis. Indeed, the annual respondent totals for several countries of origin within the foreign subpopulation have been large enough to permit focused statistical analyses of their residents who obtain U.S. doctorates (see Chapter 2). The high survey and item response rates alluded to previously reinforce these observations on SED sample size.

Sample Variation. The variation across each SED variable is extensive enough, when taken together with sample size for each variable item, to eliminate most cases of insufficiency. Furthermore, the cases in which potential variable cell counts are too small to permit statistical analysis are often capable of aggregation (such as regional groupings of small country samples) to a level at which analysis is possible. Such aggregation does not result in useless or false outcomes; the country samples which need to be aggregated belong to distinct regions (such as the Caribbean, Central America, and East Africa) which share common characteristics and sometimes educational consortia arrangements (West Indies and East Africa Examination Councils, for example).

Data Comparability. SED is unique among large-scale comparative databases in that the respondents are all engaged in common educational activities within the same system and institutional framework. Each student, whether American or foreign, is earning a research doctorate at a U.S. postsecondary institution. And while minor variations in program and regulations exist across U.S. institutions, these are minimal at the doctoral level due to accreditation requirements and the pressures of standardization within disciplines and in the labor market. Thus the conditions creating and surrounding the data sample are similar and do not need special preliminary comparative treatment in order to be usable. (For the exceptions to this observation see Data Array, below.)

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[21] See Charles C. Ragin, *The Comparative Method: Moving Beyond Qualitative and Quantitative Strategies* (Berkeley: University of California Press, 1989), Preface and Chapters 1 and 2; and Edmund J. King, *Comparative Studies and Educational Decision* (London: Methuen, 1968), Chapter 3.

[22] Heinz J. Noah, "Methods in Comparative Education," in T. Neville Postlethwaite, ed., *The Encyclopedia of Comparative Education and National Systems of Education* (New York: Pergamon Press, 1988), p. 10.

Data Validity and Reliability. SED is continuously validated and tested to maintain data quality, and the entire process from initial data collection to the publication of products and refined data files is monitored by the contractor, NSF, and the cognizant agencies sponsoring the survey as well as review panels of external users and data providers. Since the foreign and U.S. respondent data are collected during the same annual administration of the survey, and in view of the comparability of these data, there are no unique problems of data validity and reliability that would need additional attention.

Data Array. There are no special data array problems for data pertaining to activity common to both the U.S. and foreign respondent subpopulations. Background data pertaining to the period prior to enrolling in the U.S. doctoral program are another matter. While some foreign SED respondents will have lived and studied in the United States before entering doctoral programs, most will have not and will therefore report data on non-U.S. education programs and institutions, as well as personal background data, that present special problems. Foreign respondent background and educational history data require the implementation of CDS in order to be coded in ways that permit comparisons with similar data for U.S. citizens.

Bias. Statistical bias in SED data are treated via validity and reliability monitoring and the adjustments needed to achieve adequate sample size and variation. Ethnocentric bias in the comparative research component of SED is handled in two ways. First, it is understood that since SED data are collected within the context of the U.S. educational system, a degree of bias is unavoidable. That bias concerns the U.S. doctoral programs (and any other U.S. educational programs) that respondents complete. Since such data are authentic to the United States, one can argue that this type of bias is not damaging to an analysis of SED data. Second, potential bias regarding background data is significantly reduced by using a common geographic data system for all migration data (U.S. and foreign locations) and a common education program and institution coding system. The CDS program and institutional coding process, described below, is based on the International Standard Classification of Education (ISCED), and thus avoids imposing exclusively U.S. educational concepts on the data set.

Cost and Logistics. CDS greatly reduces the cost and logistical difficulty of obtaining and analyzing these comparative data. The great majority of the geographic, programmatic, and institutional data coding and array problems are resolved, thus reducing the time and expense of accessing the data. More fundamentally, the existence of SED means that these data are routinely collected as part of a larger research enterprise. There is no need to design a new comparative research program to obtain the information.

Technical Soundness

A technically sound comparative data coding system will be able to handle different practices among national systems of education with minimal distortion. It will not necessarily resemble any particular system, but will capture and present statistical data in meaningful ways using valid operational criteria. To be meaningful, such a system should be organized around educational concepts pertaining to vertical progression which are widely accepted, including concepts such as "primary," "secondary," "postsecondary," "undergraduate," "postgraduate," and others. It will do the same for concepts relating to the types of education represented (fields of study, institutional type), characteristics of educational experiences (such as the language used in instruction), and the geographic diversity reported (regions, countries, and within-country locations). The operational definitions developed from these concepts will of necessity involve arbitrary parameters that permit quantitative data collection, organization, and analysis. Nevertheless these operational parameters should be based on defensible, logical concepts.

Designing a comparative and international database presents several challenges. These include

- Identifying the aims of the comparative research project, including providing appropriate theoretical and practical justifications;
- Creating an overall research plan;
- Identifying the data that require special coding in order to be manipulated for comparative purposes;
- Developing valid conceptual definitions and selecting the methodolgical approach that will guide the design of the comparative database and integrate it into the rest of the database and other research applications;
- Developing technically acceptable operational definitions of key variables which can produce valid statistics;
- Insuring that these concepts and definitions are also sound from a policy perspective;
- Validating and refining the database design through rigorous peer review and pilot testing; and
- Implementing the final database design.

Policy Soundness

Policy considerations are related to these technical demands. Comparative theory and policy requirements are in agreement—for different reasons—in calling for a technical solution to coding data from various systems of education that avoids imposing a specific national system onto other systems of education. Bilateral and multilateral equivalency determinations are made every day in each country that needs to resolve student migration and credit allocation issues. But these determinations are not made by government authorities in every country, nor do they necessarily meet the needs of database design. Equivalency determinations are usually made on a case-by-case basis, and the rules for such decisions involve a variety of legal, political, and economic issues besides technical issues of educational comparison. Nor are the same decision rules always applied consistently across all cases, especially in situations where decisions are made at the institutional or even the faculty level. Even consistent national policies and rules can create technical problems, for these guidelines are often the result of negotiations driven by factors other than comparative accuracy and result in inflexible criteria which ignore important variations. For these reasons, a politically sound educational data coding system, like a technically sound one, will be able to handle a variety of national practices and will be linked to a widely accepted set of guidelines and concepts that have received official endorsement.

The data that CDS will control are collected from students currently studying in the United States, regardless of where they may have studied previously. Any database design that is to be used to collect and analyze data from experiences within the U.S. educational system, as with that of any other system, must reflect the realities of that system insofar as they affect the behavior being studied. Thus CDS departs from a strictly system-neutral design when necessary in order to reflect U.S. policies and practices regarding the admission of students to U.S. postsecondary institutions; to not do so would result in erroneous data collection and analysis.

Reconciling U.S. interests and the need to reflect international practices is not as difficult as it may seem. Americans are interested in accurate information on the large and growing numbers of non-U.S. citizens who enter and graduate from U.S. postsecondary institutions and who subsequently obtain jobs both here and abroad. Important issues relating to foreign assistance, foreign policy, national security policy, immigration policy, educational policy, labor and human resources policy, and economic policy all benefit from good comparative data. The data on the thousands of foreign students who study in American institutions and graduate from them each year must somehow be processed, as must data on U.S. citizens who attend foreign institutions and then come back to America. A system is needed that can handle both U.S. and foreign educational data and present these data in a format that is helpful to American users and others.

An ISCED-Based Coding System

The only system in the world that has the advantage of widespread technical and official support as a means of presenting educational level data is the International Standard Classification of Education (ISCED). It is the accepted international standard for reporting such data, and it or an adaptation is used by a majority of the world's countries. ISCED is a system that currently employs 8 levels to organize educational program data. These levels are conceptually broad and require users to collapse data on a number of different programs into common categorical "bins." Also, while ISCED actually contains a total of 10 possible levels, two of them (4 and 8) have not been used.

Fortunately, the disadvantages with the current basic ISCED system can be overcome while maintaining the system's technical and political viability. UNESCO is currently involved in revising ISCED, and insertion of the two unused levels is being actively considered. At the same time, an international organization related to UNESCO — the International Association of Universities (IAU) — has implemented an educational level coding system based on dividing each broad ISCED level into one or more sublevels. The IAU has accomplished this by assigning a two-digit code to each ISCED level and then assigning institutional and individual level (degree award) data to operationally defined subcodes, up to ten for each broad level. Since both the UNESCO revision of ISCED and the IAU coding project are official activities, and since most countries (including the United States for purposes of data exchanges) participate in UNESCO activities, employing these adaptations is both politically sound and results in technical improvements to the system. For these reasons the CIDS system is linked, where possible and where appropriate, to the International Standard Classification of Education (ISCED) and the International Association of Universities' (IAU) Trans Regional Academic Mobility and Credential Evaluation Information Network (TRACE) database.[23]

The chief adaptation necessary for U.S. purposes is to accomodate the flexibility and variety inherent in the U.S. approach to awarding academic credit. American decisions on awarding credit are made by institutions, not government authorities at any level, and these decisions are governed by rules and customs evolved over time to aid in evaluating transcripts, test results, and other items in student portfolios and files. These decisions are made on a case-by-case basis. In addition, American postsecondary educational philosophy places a great emphasis on general education, does not tend to segregate occupationally oriented study from academic or research study, increasingly promotes interdisciplinary study, and vigorously pursues policies intended to maximize access and opportunity. The net effect of all of these qualities of American practice is that American decisions regarding admission, placement, and creditworthiness of foreign students and their academic credentials do not always follow the policies prevailing in the countries where such credentials were originally earned. Nor are there formal, legally authorized rules and regulations governing such decisions. The solution used in CDS is to incorporate U.S. practices in the assignment of codes for educational levels. These are discussed in Chapter 3.

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[23] See Division of Statistics on Education, Office of Statistics, *International Standard Classification of Education (ISCED)*, (Paris: United Nations Educational, Scientific and Cultural Organization, March 1976); and TRACE Coordinating Staff, *Trans Regional Academic Mobility and Credential Evaluation Network User Manual*, (Paris: International Association of Universities, March 1991).

The Necessity for a New Comparative Database System

Obsolete Geographic Data System. SED respondent data pertaining to geography and institutional experiences were historically coded using two systems. Data pertaining to U.S. institutions were coded using a six-character code string that identified each institution by state of location, assigned it a unique identification number, and indicated whether it was a branch of a parent institution. Individual respondent background data for U.S. citizens included (and still include) state of residence and mailing address. Foreign institutional data were coded using a five-digit code string that assigned each institution a unique identification number, and also identified the country and the geographic region in which the institution was located.

Country codes in the old system were assigned to those entities indicated by respondent as their place of birth, residence, citizenship, or future plans, as well as locations of identified postsecondary institutions. The country code list did not include all countries known to exist and which might be indicated by a respondent. On the other hand, the list included occasional multiple code assignments to the same country due to new codes being assigned each time coders came upon a political or name change. This practice had, by 1991, created three listings for Germany, two for Pakistan, and two for Burma. And, because United Kingdom data are often reported internationally by component state (Scotland, England and Wales, Northern Ireland), coders had literally copied this practice and the code list possessed no aggregate code for the entire country.[24]

Regional location was coded using a set of country groupings roughly based on time zones, meridians of longitude, and (in some cases) parallels of latitude. These regional assignments were not related to any of the groupings commonly used to analyze international developments. The differences included

- Imbalances in the number of regional codes per continent (five for Europe *versus* two each for Africa and Asia) that did not reflect the proportions of students coming to the United States from these areas in the years since the system was created (1960s);

- The absence of any regional codes for some important and recognized regions (Middle East, North Africa, Southeast Asia, South Asia, East Asia, etc.); and

- Confusing assignments of some countries to regions based on the criteria described above (Malta and Italy in Central Europe; Greece in Eastern Europe; England in Northern Europe; Egypt and South Africa in Eastern Africa; India and Israel in Western Asia; etc.).[25]

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[24] OSEP/NRC, *Codes for Educational Institutions in Foreign Countries*, pp. 2–5.

[25] OSEP/NRC, Ibid., pp. 2–5.

Obsolete and Invalid Degree Data System and Methodology. The procedure used to code foreign degree data involved an effort to determine direct equivalency between specific U.S. and foreign postsecondary awards. Coders were using reference material, brief guidelines, and a short, incomplete, list of foreign degree titles which contractor staff had determined to be equivalent to U.S. awards, especially the bachelor's degree.[26] The coding procedure, in addition, was based on the assumption that the line (out of six available) under SED instrument Item 13 (Colleges and Universities Attended) which respondents would use to report their "B.A. Equivalent" degree could be predicted. The predicted line under Item 13 had been the only one coded and the resultant data were linked to data from Item 14 (Years of Full-Time Attendance Between First Baccalaureate or Equivalent and Doctorate), to calculate time-to-degree. The procedure was intended to save time and expense by reducing the coding burden to a single row in Item 13. The underlying principles governing this degree data coding procedure were (a) that case-by-case decisions on degree equivalency could be reliably made; (b) that such decisions could be made by coders exercising independent judgements; (c) that such decisions would be the same as those reported by respondents via Item 14; and (d) that interrater reliability problems would not seriously affect data quality from year to year and across successive groups of coders.

Seeking an efficient, reliable, and cost-effective means for coding masses of foreign degree data was a laudable goal. However, direct bilateral equivalency determinations were not a satisfactory solution for a number of reasons.

(1) U.S. educators have not worked out precise equivalencies in all cases of bilateral student mobility.

(2) Agreements between U.S. and foreign authorities regarding mutual equivalency recognition do not always exist, and foreign governments and institutions do not necessarily agree with the equivalency determinations developed in the United States, or *vice versa*.

(3) Establishing unilateral equivalency determinations involves elaborate justification in each case; each case often involves a variety of issues specific to it and unlike others; and the resulting individualized decisions may not meet the consistency requirements for a statistical database.

(4) Maintaining a system based on a complex series of unilateral, individualized decisions requires a massive expenditure of time and effort in order to regularly check every supporting authority, and is therefore cost ineffective if repeated annually.

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[26] Office of Scientific and Engineering Personnel, "Partial List of Degree Designations Awarded at Foreign Educational Institutions," Unpublished memorandum, (Washington: National Research Council, no date); and *FY 1989 Survey of Earned Doctorates Questionnaire Coding Manual*, (Washington: National Research Council, 1989).

(5) Since direct judgements about degree equivalency are handled on a case-by-case basis by educators at the institutional level in the United States, independent determinations at the federal level might be misunderstood as interference with the freedom of faculties and administrators to decide questions of content, academic standards, and admissions, and of institutions and exchange sponsors (including other federal agencies such as the U.S. Department of State) to promote exchanges.

(6) No completely reliable prediction as to how respondents would complete SED instrument Item 13 could or can be made, since the six lines are not numbered, instructions for ordering responses by lines and degree types are not given, and individuals may vary as to how many prior degree completions they list—quite apart from the question of whether such degrees might be deemed equivalent to U.S. associate, bachelor's, or master's degrees.

On top of these problems were the questions of coder expertise, interrater reliability across coder staff turnover, and the quality of the guidelines available to coders. Allowing coders to make substantive decisions about how data are encoded was not a common procedure in 1968, nor is it now. To work, such a procedure requires expert coders, up-to-date references, thorough guidelines and rules to minimize variations among decisions reached by different coders, and the time and money necessary to support a laborious effort and pay for coders who are really consulting experts. These factors are rarely all simultaneously present, especially when the coding task has a low priority, the total coding task is very large, and the timelines (annual data publishing in the case of SED) are tight. The nature of the coder instructions available under the old SED foreign data coding system, and the observed patterns of coding, have resulted in the conclusion that these procedures were not working very well.[27]

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[27] The instructions given to coders advised them to refer to institutional commencement programs and to the IAU's *International Handbook of Universities* and to the *Commonwealth Universities Yearbook*. Coders also had available the fruits of special efforts to update institutional and degree lists, such as a 1989–1990 updating of Chinese lists. Such resources do not seem to have helped, since the author personally examined the entire list of FY 1990 raw data marked "unknown" by coders and found that it numbered 1,319 entries (10 percent of the total foreign student response for that year). Of these unknowns, which contained a large number of Chinese responses, the author noted that some 90 percent could have been identified from the reference resources supposedly available to SED coders. Either these were not in fact available or they were not used.

The coder instructions were equally problematic. No guidance existed on degrees awarded by several major suppliers of foreign doctoral candidates, such as Pakistan, Iran, Egypt, Israel, Nigeria, all Francophone countries except France, and others, while coders were instructed to use Argentina as a model for Spanish South America and Australia as a model for the entire British Commonwealth, including Canada, East and West Africa, and the Caribbean. China was treated by the notation "See Taiwan," and Eastern European countries were not covered because at the time the system was developed very few students from behind the Iron Curtain were coming to America. Other problems and errors included instructions to code the German *Staatsexamen* and *Diplom-Universität* and the Italian *Laurea* as U.S. bachelor's degrees; code the French *Doctorat 3ème* as a Ph.D.; listing the *Matura* as a German secondary diploma; instructions to code no business diplomas as postsecondary degrees, but to code all nursing diplomas as postsecondary; and recognition, for some reason, that Polish degrees are not strictly equivalent to U.S. degrees but no such instruction

Obsolete Institutional Data System. The old foreign institutional coding system also included organizations that were not educational institutions, such as embassies, research associations and facilities, scholarship committees, and U.S./local country friendship societies.[28] Foreign individual background data were treated similarly to that for U.S. citizens except that no effort was made to systematically collect information on within-country subdivisions of origin (such as states, provinces, prefectures, etc.), and mailing addresses were not encoded. Occasional efforts to update portions of these coding systems were made, but these efforts—especially in regard to foreign data—were intermittent.[29]

A practice of adding institutional codes only as responses demanded, and the low priority assigned to foreign data coding after 1967, resulted in a woefully outdated and patchy code list. The overwhelming demands that the old system made on coders, particularly the reliance on them to be experts in comparative education and stop to look up evidence and decide each case, were resulting in increased error. In addition, the old coding system was really two systems, which meant that even correctly coded data on U.S. and foreign respondents could not easily be analyzed without erecting a crosswalk between the systems. Making all the changes necessary to improve matters would entail the creation of a new system. This step would not, of course, eliminate all errors, especially those caused by vague responses or nonresponses. But it would reduce the size of the error count, and the cost of coding. Accessing the foreign data would again become a feasible proposition.

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for any other country. Coders were expected to make their own judgements based on these guidelines and references. Further coder instructions included a decision rule to isolate the "Foreign B.A. Equivalent" data by selecting one line of the Item 13 response (All Colleges or Universities Attended) as the "B.A." line, ignoring the others. Foreign data included in analyses such as time-to-degree studies were based on these extraordinarily cryptic, misleading, sometimes contradictory, and inaccurate instructions.

Inspection of the old SED coding manuals showed that institutional codes were often assigned in error to branch campuses, affiliated colleges, residential colleges, and other parts of degree-granting institutions. Institutions that were in fact independent were sometimes treated as branch campuses of other institutions and not assigned their own codes. Names were confused as well; the University of Bucharest, for example, was assigned two codes because successive coders had apparently not realized that a name change referred to the same institution. Coders failed to locate institutions already assigned codes. The "unknown" list for FY 1990 included, among other errors, the University of Toronto, the Sorbonne campus of the University of Paris system, and the Beijing Agricultural University—all institutions contained in the extant code lists.

[28] The National Research Council assigned codes to these entities to track the doctorate earning patterns of students sponsored by international fellowships and exchanges, all of whom had (and have) to be cosponsored by the foundation providing support, the authorities in the home country, and the local United States Embassy. The new coding system does not disturb this practice, but separates degree-granting institutional codes from others.

[29] Office of Scientific and Engineering Personnel (OSEP), *Codes for Educational Institutions in the United States and Possessions*, (Washington: National Research Council, no date); OSEP, *Codes for Educational Institutions in Foreign Countries*, (Washington: National Research Council, September 1989); OSEP, *Survey of Earned Doctorates Questionnaire Coding Manual*, (Washington: National Research Council, unpublished/annual); and OSEP, *Tape Documentation File 1920-1990 Doctorate Records File*, (Washington: National Research Council, September 1991). NAS/NRC uses SED data to track research fellowship holders, hence the historical presence of non-degree-granting organizations in the institutional database. These organizations approve travel arrangements and/or sponsor fellows.

CHAPTER 2

An Overview of CDS

Two key requirements of the new comparative data system are that it systematize the coding and analysis of foreign data and make possible the comparison of these data with data from inside the U.S. educational system. CDS presents a number of features that accomplish these requirements as well as others:

- U.S. and foreign institutional and social background data can be coded using the same system;
- The system includes codes for all known countries, all known postsecondary institutions, and all known postsecondary degrees in order to anticipate data needs and make encoding more efficient, accurate, and inexpensive;
- Nondegree granting institutions and organizations are distinguished from educational institutions that grant degree awards;
- The coding of academic degree data is based upon internationally accepted ISCED educational levels and is consistent for all degrees included in the database;
- Levels of data aggregation are provided in order to serve the needs of different users;
- Variable codes are provided in order to permit accurate isolation and manipulation of regularly collected data; and
- Crosswalks are provided to ease the transition from the former coding systems to the revised system.

CDS Organization

CDS provides a systematic means for reporting and analyzing data provided by SED respondents on their geographic and educational backgrounds and future plans, as well as data on the characteristics of the educational programs completed and institutions attended prior to earning the U.S. research doctorate. The system consists of the following discrete data code elements:

- *Country Codes*, two-letter alphabetical codes identifying different countries of the world;

- *Country Subdivision Codes*, two-digit numerical codes identifying internal political jurisdictions of countries (states, provinces, etc.) in cases where these are used to break out data;
- *Place Codes*, four-digit numerical codes identifying localities (town, city, rural point, etc.) within countries and country subdivisions indicated by respondents;
- *Institutional Identifiers*, four-digit numerical codes, coupled with a country code, that identify and distinguish each educational institution included in the system;
- *Primary Language Codes*, two-letter alphabetical codes identifying the primary languages of instruction used by institutions included in the system;
- *Type Codes*, single-digit numerical codes identifying the type of educational institution; and
- *Program Completion Codes*, two-digit numerical codes identifying the level of program completion awards included in the system, as well as the highest degree awarded by coded institutions.

The concepts and operational definitions underlying these system components are discussed in Chapter 3.

Categories of Data

Location Data. Location data, which describe geographical facts, include codes for *geographic region*, *country*, *country subdivision*, and *place*. Location codes are used to report and analyze data on respondents (place of birth, permanent residence, university attendance, citizenship, and planned residence); on institutions (place of location); and on completion awards (country and institution in which awarded).

Institutional Data. Institutional data describe facts pertaining to an institution which a respondent has attended, and that enrich knowledge of the kind of educational experience which that respondent may have had. In addition to *location*, institutional data include *highest degree awarded* (called "level"); *type* (university, college, specialized institution, short course provider); and *primary language of instruction* used to deliver educational services.

Program Data. Completion award data, which in practice usually means academic or professional degrees, include *location* (country in which awarded and institution by which awarded), *level* of award, and *field of study* (program completed). Award level is described by means of a code structure based on the International Standard Classification of

Education developed by UNESCO and recognized internationally as the standard system for reporting educational program data.[10]

Examples of CDS Codes

Each individual data element code may be used alone, to represent the discrete variable it signifies, or in combination. One standard combination is the *Institutional Data Code*, which employs all of the discrete data element codes to create a statistically manipulable representation of a postsecondary educational institution. The following example of an institutional data code string also serves to illustrate what each code looks like:

US0001010001ENAA73

The example is the institutional code for Alabama A & M University, an institution located in the State of Alabama, United States of America. A breakdown of the code string reveals the following data codes:

US	Country Code
0001	Identifier Number
01	Country Subdivision Code
0001	Place Code
EN	Primary Language of Instruction Code
AA	Institutional Type Code
73	Institutional Level Code

In this case "US" is the country code for the United States; Alabama A & M University is the first institution coded for the State of Alabama, thus has assigned identifier number "0001;" Alabama is the first State listed in English alphabetical order, thus country subdivision code "01;" the town where this institution is located within Alabama is, by virtue of the institution being the first listed, the first locality to be assigned a code in that State, thus the place code "0001;" "EN" is the code for English, Alabama A & M's primary language of instruction; the institution offers a comprehensive variety of programs and awards the research doctorate, thus the type code "AA;" and the doctorate is the highest degree awarded, thus the use of the program completion award code "73" for the research doctorate. (For a complete discussion of these codes and a listing of all codes used in CDS, see Chapter 4 and Section 2 of this volume.)

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[10] Division of Statistics on Education, Office of Statistics, *International Standard Classification of Education (ISCED)*, (Paris: United Nations Educational, Scientific and Cultural Organisation, March 1976). Fields of study may also be classified according to the ISCED system using the official U.S. crosswalk of education program data to that system. See E. Stephen Hunt, *A Guide to the International Interpretation of U.S. Education Program Data: CIP, IPEDS, CCD, and ISCED*, Publication No. OR 93-3223 (Washington: U.S. Department of Education, October 1993).

The coding system consists of new identification codes for countries of the world, postsecondary institutions, and postsecondary program completion awards. These identification codes are joined by a series of variable codes which provide additional data about each subject. The new coding system is premised on the observation that each data element, or code assignment, refers to something (country, institution, degree) about which much is known besides its basic identity. There is no reason why some of these additional facts cannot be added to the database as variables by means of embedding them, via subcodes, in the code strings identifying each element. Such layering can considerably expand the basic data record.

The SED Data Items Coded Using CDS

Not all of the comparable data collected via SED require special treatment. The two types of respondent data which require CDS coding are data pertaining to a respondent's personal background and plans, and data describing the educational programs completed and institutions attended. Personal background data include such variables as

- Permanent Address (SED Instrument Item 2);
- Place of Birth (SED Instrument Item 4);
- Citizenship (SED Instrument Item 7); and
- Postgraduation Plans (SED Instrument Items 20–24, especially Place of Intended Work/Study/Residence after Graduation (SED Instrument Item 24).

These items may be coded using CDS geographic codes for country, country subdivision, and place.

Educational data include

- High School Location and Date of Graduation (Instrument Item 12);
- All Colleges or Universities Attended, Years Attended, Field of Study, Each Degree Earned, and Date Received (Instrument Item 13);
- Field of Doctorate (Instrument Item 15); and

- Department and School of University Awarding the Doctorate (Instrument Item 16).

These items may be coded using CDS geographic, program, and institutional codes, plus the SED field of study codes retained by CDS.

Indirect and Direct Data

The data coded via CDS are not limited to that directly reported by respondents. Responses to Items 13 and 16 provide information on previous institutions attended and where the respondent obtained his or her U.S. doctorate. Likewise, responses to Items 2, 4, 7, 12, and 24 provide information on countries and places within countries. Since certain facts are known about the institutions which respondents may list and the geography of countries, it is possible to embed these unobtrusive data elements in the coding system and thereby enrich the analyses that can be made of the data. These indirectly collected data, which change infrequently, include

- Type of institution (whether specialized or comprehensive and broad level of education offered);
- Level of each degree awarded by institutions in a country;
- Level of the highest award granted by a specific institution;
- Location of a specific institution within a country;
- Primary language of instruction used at a specific institution; and
- Internal political geography of a country (regions, states, provinces, etc. in which places are located); and
- Geographical region within which a country is located.

The new coding system incorporates both direct and indirect data through modifications to the previous coding system used for SED.

Direct Data. Data on country and place, collected via Items 2, 4, 7, 12, and 24 are coded using specific assigned codes for each known country and for all places which respondents indicate (no attempt is made to exhaustively code all possible place names). Also, specific codes are assigned to every known institution (Item 13) and postsecondary degree award (Item 13).

Indirect Data. Subdivisions for certain identified countries (refer to Chapters 2 and 3) are assigned codes in order to facilitate detailed studies of the cohorts of students coming from these locations. For institutions, codes are assigned for primary language of instruction, type, and highest award. In addition, institutional location data are refined by assigning subdivision and place codes to each institution (the same codes that are used for respondent location data). Regional groupings are also developed and assigned for countries.

The Combined System. The data elements (variables) described above are operationally defined in Chapter 3. Chapter 4 lists and discusses certain conventions and decision rules used in developing and implementing the system, and also describes how the codes appear in the data files.

CHAPTER 3

Concepts, Definitions, and Methodology

This Chapter explains the development of each operational definition controlling a concept or variable data element used in CDS. It begins with the operationalization of the concept of postsecondary education, the key concept governing the system, and then proceeds to the definitions of each system component.

Defining Educational Levels

The first order of business in designing a coding system for postsecondary educational research is to operationally define what is meant by the term "postsecondary education." This definition will set the parameters within which each specific system concept will be defined and implemented.

Educational Levels in General

The concept of educational levels may be expressed in a variety of ways depending upon the purpose of research. In the case of a database such as SED or SDR, which keys on educational program completions, level is expressed in the form of earned postsecondary degrees or other awards.

For purposes of CDS, educational level is a concept defined similarly to its use in the *International Standard Classification of Education* (ISCED). ISCED defines levels as "categories representing broad steps of educational progression from very elementary to more complicated learning experiences."[31] ISCED ignores national level distinctions made on the basis of type of educational program (such as vocational versus academic, or university versus nonuniversity), entering age requirements, or program duration. It does, however, operationalize the concept of level by defining each successive level of education in terms of the previous level, using years in school as the quantifying element. The years in school used for level parameters are the minimum needed in order to categorize levels across the world's educational systems.[32] This organization of educational levels leads to the following definitions:

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[31] UNESCO Division of Statistics on Education, Office of Statistics, *International Standard Classification of Education (ISCED)* (Paris: UNESCO, March 1976), p. 4.

[32] *ISCED*, ibid., pp. 5–6.

ISCED Level	Definition
0	**Education Preceeding the First Level,** *usually beginning at age 3, 4, or 5 (sometimes earlier) and lasting from 1 to 3 years.* (Level 0 is intended to capture data on preschool education programs.)
1	**Education at the First Level,** *usually beginning at age 5, 6, or 7 and lasting about 5 or 6 years.* (Level 1 is intended to capture data on primary education programs and basic literacy programs.)
2	**Education at the Second Level, First Stage,** *usually beginning at age 11 or 12 and lasting for about 3 years.* (Level 2 is intended to capture data on lower secondary education programs, functional literacy programs, and basic vocational programs for school leavers.)
3	**Education at the Second Level, Second Stage,** *usually beginning at age 14 or 15 and lasting for about 3 years.* (Level 3 is intended to capture data on upper secondary education programs, secondary equivalence programs for adults, and vocational programs leading to secondary school graduation.)
5	**Education at the Third Level, First Stage, of the Type that Leads to an Award Not Equivalent to a First University Degree,** *usually beginning at about age 17 or 18 and lasting for about 3 years.* (Level 5 is intended to capture data on short postsecondary education programs and postsecondary occupational programs not leading to full degrees.)
6	**Education at the Third Level, First Stage, of the Type that Leads to a First University Degree or Equivalent,** *usually beginning at about age 17 or 18 and lasting for about 4 years.* (Level 6 is intended to capture data on full first, or undergraduate, postsecondary degree programs and equivalent programs.)
7	**Education at the Third Level, Second Stage, of the Type that Leads to a Postgraduate University Degree or Equivalent,** *usually beginning at about age 21 and lasting for an indeterminant number of years.* (Level 7 is intended to capture data on postsecondary degree programs and equivalent programs occuring subsequent to the award of a first degree or equivalent.)
9	**Education Not Definable by Level.** (Level 9 is intended to capture data on educational programs outside the formal sequence of education levels, including programs leading to no recognized award and carrying no credit.)[33]

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[33] ISCED Manual, ibid., pp. 6–12.

ISCED levels are listed in a broken numerical sequence because levels 4 and 8 have never been assigned. They are reserved for possible revision of the ISCED system, but to date have not yet been implemented. The current structure of educational levels as defined in the ISCED system is readily adaptable to the SED comparative database.[14]

Using ISCED to Distinguish Secondary and Postsecondary Education

Defining postsecondary education involves distingushing this level and kind of education from that which precedes it: secondary education. The point at which secondary school completion is deemed to occur, and postsecondary education thus begins, varies among educational systems and within them according to the type of secondary studies that an individual student pursues. Someone seeking to define the point of secondary/ postsecondary interface is thus faced with a variety of practices and policies that often contradict one another and cannot be reconciled for purposes of statistical research. For this reason, it is impossible to arbitrarily define secondary completion based on the official regulations or customary patterns of one country, or one type of secondary program.

Some examples of national variations may illustrate the problem. U.S. secondary education generally ends at the conclusion of the 12th year of formal schooling with a diploma that roughly corresponds to a general course of secondary studies in Europe and Japan, but not to the level of education reached by students enrolled in those countries' university preparatory or advanced school-to-work transition programs.[15] A U.S. high school diploma may be compared, for example, to completing *Realschule* in Germany or Fifth Form studies in Great Britain (10th and 11th grades, respectively). By contrast, the German *Abitur* and the English Sixth Form qualification represent levels of secondary education that typically receive advanced college-level credit (up to junior standing, or 2 years of U.S. college-level studies) when holders of such credentials enroll in U.S. colleges and universities.[16]

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[14] For a detailed discussion of the compatibility between ISCED and U.S. classification systems for education program data, see E. Stephen Hunt, *A Guide to the International Interpretation of U.S. Education Program Data: CIP, IPEDS, CCD, and ISCED* (Washington: U.S. Department of Education, September 1993).

[15] While many U.S. public school systems provide a preschool or kindergarten program, and some also provide a nursery school or prekindergarten program, these programs are elective and not always available. Thus, while data on enrollments in various preschool programs are collected these levels are not counted as part of the regular sequence of 12 years of elementary and secondary education.

[16] The postsecondary placement recommendations adopted for these two secondary programs (as for others) and generally used by U.S. institutions were developed by the National Council on the Evaluation of Foreign Educational Credentials and disseminated via two professional associations, the American Association of Collegiate Registrars and Admissions Officers (AACRAO) and the National Association for Foreign Student Affairs (NAFSA). See Stephen H. Fisher, *United Kingdom, World Education Series*, (Washington: AACRAO, 1976), pp. 220–227; Sylvia K. Higashi, Richard Weaver, and Alan Margolis, *The Educational System of the United Kingdom: The Admission and Placement of Students from the United Kingdom and Study Abroad Opportunities, A Workshop Report Sponsored by Projects for International Education Research (PIER)*, (Washington: AACRAO/NAFSA, 1991), pp. 81–87 and 155–161; Georgeanne B. Porter, *Federal Republic of Germany, World Education Series*, (Washington: AACRAO, 1986), pp. 131-137; and William J. Paver, *NAFSA Handbook on the Placement of Foreign Graduate Students: 1990 Edition*,

Likewise, advanced vocational training programs in some countries are not always considered postsecondary education there, yet these programs extend beyond 12 years of school and definitely provide preparation not available in regular secondary programs. (German *Berufsakademien* and Swiss and Finnish higher vocational education are examples of this phenomenon.)[17] A third complication is represented by professional programs that are recognized as postsecondary and that may require similar entrance qualifications as universities, but that are not considered university-level education. German *Fachhochschulen* and the pre-1991 British Polytechnics (among others) fit this hybrid model.[18] Yet a fourth example of a variation is the *classes préparatoires* for the French *Grandes Écoles*, which are offered in secondary *lycées* but provide a postsecondary level of education equivalent to 1 or 2 years of French university studies.[19]

What is clearly needed is an operational definition of the secondary/postsecondary transition point that allows all national patterns to be expressed via the same formula. This definition should, if possible, be one that is (a) widely recognized and used by researchers and policymakers; and (b) officially recognized by governments and educational authorities as satisfactory for data reporting purposes. Using the ISCED definitions of secondary and postsecondary education solves these problems and avoids the technical and policy-related problems that would occur if an attempt were made to arbitrarily construct a system of educational level definitions.

While using ISCED helps to resolve the issues of universality and official sanction, it does not resolve the problem presented by the fact that individual respondents' educational experiences do not always fit any standard pattern. However, no coding system developed

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(Washington: NAFSA, 1990), pp. 72–73 and 188–189. These recommendations have also been published as guidelines for the Office of International Training, U.S. Agency for International Development. See G. James Haas, ed., *Foreign Educational Credentials Required for Consideration of Admission to Universities and Colleges in the United States: Third Edition*, (Washington: AACRAO AID Project, April 1985), pp. 58 and 165–166.

[17] Porter, *Federal Republic of Germany*, pp. 43–44; Karlene N. Dickey and Karen Lukas, *Swiss Higher Schools of Engineering and Swiss Higher Schools of Economics and Business Administration: A Special Report*, (Washington: AACRAO, 1991); Eugen Egger, *Education in Switzerland*, (Berne: Swiss Conference of Cantonal Directors of Education, 1984), pp. 29–34; and Juha Arhinmäki, Riitta Laine, and Helena Mattila, eds., *Vocational Education in Finland* (trans. Anja Aaltonen), (Helsinki: Government Printing Centre, 1991).

[18] Bund-Länder Kommission für Bildungsplanung und Forschungsförderung und Bundesanstalt für Arbeit, *1992/93 Studien und Berufswahl*, (Bad Honnef: Verlag Karl Heinrich Bock, 1992), pp. 38–46; Der Bundesminster für Bildung und Wissenschaft, *Hochschulrahmengesetz*, (Bonn: Bonner Universitäts-Buchdruckerei, Dezember 1986), Band I, III; Porter, *Federal Republic of Germany*, pp. 96–105; Fisher, *United Kingdom*, pp. 113–126; and Higashi, Weaver, and Margolis, *The Educational System of the United Kingdom*, pp. 50–52. British Polytechnics were statutorily granted the status of universities under the 1991 Framework Law for Higher Education. See Secretaries of State for Education and Science, Scotland, Northern Ireland, and Wales, *Higher Education: A New Framework, White Paper Presented to Parliament by Command of Her Majesty*, (London: Her Majesty's Stationery Office, May 1991).

[19] A. Miriam Assefa, *France, World Education Series*, (Washington: AACRAO, 1988), pp. 87–91, 110, 116–117, 121–125, and 136–137; and Ministère de l'Éducation Nationale de la jeunesse et des sports, *L'Enseignement supérieur en France*, (Bordeaux: Imprimeries Delmas, Janvier 1990), pp. 13–15.

for a large survey-based database could do this without defeating its purpose. The aim of SED is to provide data on aggregate activity and trends, not to analyze the personal development of individuals. Indeed, the regulations governing SED and the laws of the United States prohibit any individualized data reporting or analysis. A coding system for degree awards is necessary in order to handle the data on educational backgrounds in the SED database, and this system must be able to do so in generalizable and comparable ways. Given this requirement, an ISCED-based set of definitions and implementation systems is preferable to other alternatives.

Defining Secondary Education

Using the ISCED operational definition of the point of transition between secondary education (ISCED level 3) and the beginning of postsecondary education (starting at ISCED level 5), a *regular secondary school program* may be defined as

> *a program that begins around 14–15 years of age and normally lasts until age 17 or 18, representing when completed approximately 12 years of formal schooling counting previous primary (elementary) education.*[40]

Secondary school completion is thus defined by years of age and years in school, not by type of program as officially recognized. Since some secondary programs take longer to complete than others (especially university preparatory programs), while others take less time (such as some vocational programs or compulsory schooling), a definition based on program content or type would be impossible to apply consistently across different educational systems or even within some systems. The definition adopted has the advantage of being applicable to all systems of education.[41]

The term "approximately" in the definition of secondary education refers to the fact that completed secondary school programs represent between 9 and 13 years of schooling, depending on the country and the program. For SED research purposes, however, the approximation is not nearly so loose. All secondary school awards which do not permit their holders to enroll in postsecondary studies may be ignored, since individuals qualifying for the research doctorate would not usually hold such credentials. A perusal of secondary school completion qualifications around the world demonstrates that, universally, secondary programs that qualify individuals for postsecondary study consist of one of three basic types:

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[40] This operational definition is derived directly from the ISCED operation definition of Level 3 (Second Level, Second Stage) completion. See UNESCO, *International Standard Classification of Education (ISCED)*, p. 7.

[41] Within-country variations are not reflected when national data are crosswalked to ISCED or a system based upon it. These suppressed variations are not a severe problem when the object of research is not to determine bilateral equivalency, but rather to analyze educational backgrounds using a common system. Furthermore, the research doctorate level of education is comparable across all national education systems awarding it, unlike other levels. The research doctorate in the case of the SED is the U.S. Ph.D. degree, thus representing a common completion point for all respondents. Furthermore, within-country variations in educational progression most frequently occur at the point of transition from secondary to postsecondary education and at the undergraduate (first degree) level, less so at higher levels.

(1) Specific academic preparatory programs leading to a university or college entrance diploma or the right to take an entrance examination;

(2) Vocational/technical programs leading to a diploma or examination allowing the student to enter specific postsecondary programs of study at the university or college level; and

(3) General secondary school programs that qualify completers to apply for admission to universities and colleges, or to take entrance examinations.[42]

Secondary awards of these types are also similar in length from country to country, the range of variation being 11 to 13 years of formal schooling (nearly always including more years than required by compulsory attendance laws). This similarity permits an operational definition of the term "approximate" by the creation of three secondary level codes, based on ISCED level 3:

30 **Short Secondary Awards,** *representing less than 12 years of formal schooling*;

31 **Regular Secondary Awards,** *representing 12 years of formal schooling*; and

32 **Advanced Secondary Awards,** *representing more than 12 years of formal schooling.*

Special Operational Cases. In certain cases it is common practice at U.S. postsecondary institutions to treat secondary credentials that represent less than 12 years of school as regular secondary awards, and in other cases to award advanced placement credit for secondary awards representing 12 or more years of school. A few well-known examples of such cases include Brazilian academic secondary awards and British Fifth Form qualifications, which represent 11 years of cumulative education but are commonly treated as comparable to U.S. 12-year high school diplomas; the French *baccalauréat*, representing 12 years of cumulative education but commonly recognized as representing up to a year of advanced placement credit in U.S. institutions; and the German *Abitur*, a secondary award representing 13 years of cumulative education but frequently recognized for up to 2 years of advanced placement credit (junior standing) in U.S. institutions.

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[42] A possible fourth type—special international secondary certificates such as: the International Baccalaureate, the Cambridge Overseas School Certificate, the East and West Africa Examination Board Certificates, and others—is actually made up of awards that fall into one of the three described categories.

Secondary programs and awards such as these are accomodated in CDS by assigning them to the secondary code corresponding to prevailing U.S. practice. This inconsistency within the system is justified in order to insure that time-to-degree data for foreign students in U.S. postsecondary programs are accurately measured. To treat a qualification such as an *Abitur* as a 12-year U.S. high school diploma, for example, would ignore the vital difference in how postsecondary institutions view the two qualifications, and thus distort any time-to-degree calculations made on that basis and the conclusions drawn therefrom.

These special cases are allowed for in the operational definitions and formulae for secondary and postsecondary education. They present no technical problems in terms of the coding system, but users should be alert to them. SED is a census of students admitted to U.S. postsecondary institutions, so it is important for the SED coding system to incorporate common evaluation and placement practices for foreign awards whenever these exist.[43] The listing of completion awards and corresponding CDS codes for each country in Volume 2 incorporates this special case rule and helps to clarify how the coding system operationally defines degree sequences in the case of each country.

Distinguishing Postsecondary from Secondary Education

These quantitative definitions of secondary completion points, based firmly on the basic ISCED definition, permit the following definition of postsecondary education as

> *programs of education longer in duration than ISCED level 3 regular secondary school programs of studies, taking into account the formula for calculating program length based upon the type of secondary program.*

Therefore, if a short secondary award (as defined above) precedes a postsecondary credential, one or more years is subtracted from the time-to-degree of the initial and all subsequent postsecondary awards for purposes of calculating the years of cumulative education. If an Advanced Secondary Award precedes a postsecondary credential, one or more years is added to the time-to-degree calculation. For Regular Secondary Awards the calculation remains unchanged. This formula is used to determine the level code assigned to different secondary awards and indirectly influences the level code assignments for different postsecondary awards and the institutions awarding them.

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[43] Quasi-official guidance on the subject of credential evaluation exists in the form of a guide for staff of U.S. Agency for International Development (AID) country missions who are involved in advising foreign citizens on educational opportunities in the United States. This guide is the product of an ongoing joint project between AID and the American Association of Collegiate Registrars and Admissions Officers (AACRAO), and is periodically revised. See G. James Haas, ed., *Foreign Educational Credentials Required for Consideration of Admission to Universities and Colleges in the United States*, Fourth Edition (Washington: AACRAO/AID Cooperative Project, 1994). The information contained in the guide is not regulatory or prescriptive, and following it does not guarantee that a prospective student will be admitted to any given program or institution, or vice versa. It does, however, reflect prevalent practices among U.S. institutions and academic officials regarding foreign credentials.

Defining Postsecondary Education

The original ISCED system recognizes three postsecondary education levels:

- Education at the Third Level, First Stage, of the Type that Leads to an Award Not Equivalent to a First University Degree (ISCED level 5);
- Education at the Third Level, First Stage, of the Type that Leads to a First University Degree or Equivalent (ISCED level 6); and
- Education at the Third Level, Second Stage, of the Type that Leads to a Postgraduate University Degree or Equivalent (ISCED level 7).[44]

ISCED level 5 includes any postsecondary award programs of a duration shorter than a full first degree which (a) are terminal in character; (b) are not terminal but do not necessarily lead to further studies; and (c) do not form part of a full first degree program. It is necessary to code program corresponding to ISCED level 5—and the institutions offering such programs—because Item 13 of the SED questionnaire specifically asks respondents to indicate 2-year institutions (that is, institutions offering less than a full first degree) as well as other degree-granting institutions previously attended. The need to code ISCED level 6 programs, which are university-level first degrees, is obvious, as is the need to code level 7 programs, since many respondents have already earned one or more graduate degrees prior to the U.S. doctorate.

Within each ISCED level are captured different types of program awards, just as with secondary education. Perhaps the biggest problem that users of ISCED have had to contend with is how to fit a wide variety of different programs and awards into only three levels. The International Association of Universities (IAU) has approached this problem in its adaptation of the ISCED system by assigning each level a two-character code, thus permitting each ISCED level to be broken out by sublevels. The IAU's *Trans Regional Academic Mobility and Credential Evaluation Information Network* (TRACE) database system assigns codes to the following types of postsecondary awards:

5A	Higher Vocational/Technical Non-University Level Qualification - 3 Years or Less
5B	Higher Vocational/Technical Non-University Level Qualification - 3 Years or More
6A	Intermediate University Level Qualification
6B	1st University Level Terminal Degree

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[44] UNESCO, International Standard Classification of Education (ISCED), pp. 25–26, 34–36, 43–56, and 147–329.

6C	1st University Level Terminal Degree with Research Element
7A	Advanced/Postgraduate Degree (Taught Degree without Research Training) - or Equivalent Qualification
7B	Advanced/Postgraduate Degree (with Research Training) - or Equivalent Qualification
7C	Advanced/Postgraduate Degree (Specialized) - or Equivalent Qualification
7D	Doctorate Degree
7E	Higher Doctorate[45]

The IAU/TRACE level breakout is an improvement on the basic ISCED system, and points the way toward solving the problem of collapsing dissimilar programs and awards into broad clusters. This adaptation, however, needs two further refinements in order to be useful for SED coding purposes. Operational definitions for each coded program level need to be stated, and the codes need to be expressed numerically in order to permit users to see the sequencing involved.

CDS Postsecondary Educational Award Definitions

Short Undergraduate Postsecondary Awards. The SED coding system further refines the ISCED-based adaptation created by IAU/TRACE. Using the operational definitions of secondary education and of the secondary-postsecondary transition point, short postsecondary programs and awards not leading to a full first degree are defined as follows:

50 **Postsecondary Programs and Awards of No More Than 2 Years.** *Programs and awards that are designed to represent no more than 2 years of study; constitute postsecondary education as operationally defined in CIDS; and are not second (graduate-level) programs and awards.*

51 **Postsecondary Programs and Awards of More Than 2 but Less Than 4 Years.** *Programs and awards that are designed to represent more than 2 years of study but less than 4 years; constitute postsecondary education as operationally defined in CIDS; and are not second (graduate-level) programs and awards.*

Very few educational systems have full first degree programs that would correspond to CDS codes 50 or 51. Most degrees, diplomas, or certificates awarded at these levels are either terminal, occupationally specific awards or intermediate awards *en route* to a first degree. For example, U.S. associate degree awards would be assigned code 50 because they are 2-year awards following a U.S. 12-year high school diploma, an award assigned to secondary level 31 as operationally defined in CDS. The French *DEUG (Diplôme d'études universitaires générales)* diploma is another example of an intermediate postsecondary award that is not a full first degree. Unlike an associate degree, however, the *DEUG* is assigned to code 51 rather than 50. While the *DEUG* is a 2-year award in France, it follows a secondary award—the French *baccalauréat*—commonly awarded advanced credit in U.S. institutions (up to one academic year) and therefore assigned secondary code 32.

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[45] TRACE, *User Manual*, p. 40.

Long Undergraduate Postsecondary Awards. Longer initial postsecondary programs, including most full first degree programs, are assigned one of the following codes in CIDS:

60 **4-Year Postsecondary Programs and Awards.** *Postsecondary programs and awards which are designed to represent 4 years of study beyond 12-year secondary awards as operationally defined in CIDS; and which are not second (graduate-level) programs and awards.*

61 **Postsecondary Programs and Awards of More Than 4 but Less Than 6 Years.** *Postsecondary programs and awards which are designed to represent more than 4 but less than 6 years of study beyond 12-year secondary awards as operationally defined in CIDS; and which are not second (graduate-level) programs and awards.*

70 **Advanced First Postsecondary Programs and Awards.** *Postsecondary programs and awards which are designed to represent 6 or more years of study beyond 12-year secondary awards as operationally defined in CIDS; are not second (graduate-level) programs and awards; but may represent second first degree programs and awards.*

CDS codes 60 and 61, as well as some postsecondary programs and awards assigned to code 70, represent a sequence of program length extending beyond codes 50 and 51. These codes, as implied by ISCED level 6, also happen to correspond to the placement of most first postsecondary degrees. Code 60 includes some 3-year first degrees, such as certain British and Commonwealth bachelor's degrees, which follow secondary awards assigned to level code 32 (in this case because the prerequisite secondary attainment is the 13-year Sixth Form qualification). In addition, code 70 includes some degrees, diplomas, and certificates which are earned after an initial first degree but which are not considered graduate degrees. Examples include U.S. and first-professional degrees in law, medicine, and other fields; certain British and Commonwealth professional degrees in law, medicine, and theology; and diplomas and certificates earned in a year or less after a first degree that provide extra preparation (such as a qualification to teach) but are not full graduate degrees.

Graduate Postsecondary Awards. Graduate-level programs and awards, also called second degrees, require a year or more of full-time study or the equivalent after the first or second undergraduate degree. Such awards signify the completion of programs that may include significant independent research and that in all cases represent advanced study in a subject beyond the undergraduate or entry level. CDS defines and codes graduate programs and awards as follows:

71 **Postsecondary Second Degree Programs and Awards.** *Graduate-level programs and awards in academic or professional fields which constitute a second full degree after the first degree and are designed to represent 1 or more years of study and research.*

72 **Advanced Graduate-Level Programs and Awards.** *Graduate-level academic or professional programs and awards which require prior possession of a first award and often a second award; which are designed to represent at least 1 year of study beyond the second degree and 2 beyond the first; and constitute a level of attainment beyond that of a second degree but not equivalent to a research doctorate.*

73 **Research Doctorate Programs and Awards.** *Graduate-level programs and awards in academic or professional fields which require prior possession of at least a first degree and frequently a second; are designed to represent at least 3 and most often 4 or more years of study beyond a first award; involve the planning and execution of a major independent research project and the publication and defense of an original dissertation or thesis on the topic researched; are recognized as the terminal level of academic attainment in the regular progression of university-level studies; and bestow the title of "doctor" or the equivalent on the holder.*

74 **Higher Doctorate Programs and Awards.** *Graduate-level programs and awards which require the prior possession of a research doctorate degree; represent a period of independent research and publication as a professional scholar or scientist outside the awarding institution and thus beyond the regular sequence of university-level study; constitute a portfolio of accomplishments (experimental research, publications, theoretical contributions, other professional work) to be judged by faculty peers; are not purely honorary awards; and confer a second doctorate or other title (such as "habilitated") and professional privileges.*

Other Awards. Some programs and awards cannot be defined according to a level of education. Others are programs whose level can be roughly ascertained but which result in no award and may possess no measurable time frame. These types of educational experiences require special treatment, and are defined and coded accordingly, thus:

90 **Programs and Awards Not Definable by Level.** *Structured or regulated programs of study in academic or professional fields at any postsecondary level that do not result in the award of a degree or other formal credential, and which may or may not result in some form of academic credit.*

99 **Other Programs.** *Any known postsecondary program not elsewhere classifiable.*

Finally, unknown cases, including poor or undecipherable responses and nonresponses, are defined and coded as follows:

00 **Unknown Programs.** *Any postsecondary program about which too little information is known to enable a precise code assignment to be made, and nonresponses.*

The above list of level definitions and codes includes sufficient cases to cover known patterns of postsecondary programs and degrees. It refines the IAU/TRACE adaptation of ISCED by employing a 2-year rather than a 3-year breakout for the ISCED Level 5 subcodes, adding codes for nondegree programs and other and unknown responses, and providing specificity to each subcode in ISCED Levels 6 and 7. A 2-year Level 5 breakout is preferred to a 3-year breakout because most known programs at this level are of 1, 2, or 3 years duration —all of which would be lumped together if a 3-year cut were employed. Where longer programs of this kind exist, such as some 4- or 5-year programs, the question arises as to whether such cases need to be assigned to subcode 51 or be placed at Level 6. The decision is based on the subcode operational definition which the program or degree in question matches. Code 90 is added in order to capture SED responses pertaining to programs such as those offered by institutions like the *Collège de France*, which award no credentials but represent advanced study. Other and unknown codes are added for statistical purposes.

Some Cautions Concerning Level Coding

Level subcodes are not indicators of academic quality and should not be interpreted as such. Nor should these codes be interpreted to indicate the level of educational attainment, in terms of subject mastery and demonstrable skills, that any particular graduate of a specific institution or program thus coded might be expected to possess. Furthermore, level subcodes are not designed or intended as degree equivalency indicators. Expressing academic levels in terms of ISCED does not permit direct comparisons between national programs and awards, for ISCED does not match any specific national system of postsecondary education. This subcode permits analysis of earned credentials in terms of an internationally accepted level structure while avoiding the complications and hazards of attempting direct comparisons of national awards.

The coding structure for degree levels is described in Chapters 3 and 4, and the codes are presented in Parts 8 and 11 of this volume.

Defining Postsecondary Program Types

The structure of the SED survey instrument and the longitudinal continuity of the SED database do not lend themselves to using the ISCED program type classification or others based upon it.[46] SED program field codes are based on the U.S. Department of Education's *Classification of Instructional Programs* and are provided to respondents on the back of the survey instrument. Codes for fields of study for previously earned degrees, where indicated, will be based on the standard SED list of program codes. Users who desire to match these codes to the ISCED format as used by IAU and other international organizations may employ the crosswalk contained in *A Guide to the International Interpretation of U.S. Education Program Data: CIP, IPEDS, CCD, and ISCED* (previously cited; see footnote 22 in Chapter 1 and the References section).

Program type codes used in SED are presented in Part 7 of this volume.

Defining a Postsecondary Institution

Every postsecondary educational institution included in this coding system must offer postsecondary programs and make completion awards, consistent with the operational definition of postsecondary education. In addition, postsecondary institutions which are assigned separate codes must meet the requirements of the following operational definition of an institution:

> *An organized, free-standing academic entity; recognized by some appropriate nationally sanctioned authority; empowered to grant degrees and/or other awards in its own name for the completion of educational programs it provides; and providing educational programs that extend beyond the regular limit for secondary school graduation as defined in ISCED.*

The following specific terms are also defined:

> **Organized** *means an entity that is a formally incorporated or authorized institution, not an informal study group or body;*
>
> **Free-Standing** *means an institution that is not an integral component of another institution or organization, such as a branch campus or attached research institute;*
>
> **Recognized** *means that an institution has been accredited by appropriate governmental and/or nongovernmental authorities (practices differ from country to country), or otherwise authorized or licensed to provide*

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[46] The IAU/TRACE database uses a program type classification and coding system based upon ISCED. See TRACE *User Manual*, Annex 14: "Fields of Study Codes (based on ISCED)," pp. 45–54.

educational services and award degrees, diplomas, or certificates; and

Empowered in Its Own Name *means that the institution possesses the power to award degrees, diplomas, or certificates in its own name rather than in the name of another institution.*

Institutions which are affiliated or associated with another institution are not assigned separate codes unless they are empowered to award degrees in their own names. For example, the many affiliated colleges associated with universities in Bangladesh, India, and Pakistan are listed as components of the single university which awards the degrees for which these colleges prepare students. The colleges are, in effect, merely off-campus residential teaching branches of the affiliating university and have no power to grant awards of their own.[47]

Defining Institutional Type

The concept of type refers both to the nature of the programs offered by a postsecondary institution and the broad level of educational activity which it supports. Postsecondary institutions may be general or specialized in the range of programs which they offer. Some institutions offer a wide variety of programs in academic or professional fields, or both, and may be styled *comprehensive institutions*. Others offer a narrow variety of programs with a common theme, such as academies of fine or performing arts or engineering institutes, or specialize in a single field, such as schools for primary teacher training or theological seminaries. They may be styled *specialized institutions*. The name of an institution is not always a good indicator of whether it is in fact comprehensive or specialized. Take the examples of public postsecondary vocational-technical schools and the Massachusetts Institute of Technology (MIT), both from the United States. The former are in many cases comprehensive community colleges which retain the narrower designation under which some States originally created them, while MIT, which began as an engineering school, now encompasses a variety of programs and is a comprehensive research university. Likewise, some institutions called universities either possess little or no graduate research emphasis, or offer programs in only one or a few related fields.

In addition to the variety of programs offered, postsecondary institutions are also distinguished by the level and kind of programs and services offered. In general, institutions may be distinguished based on the degree to which they emphasize advanced research and preparation for advanced studies or careers. Institutions emphasizing short programs that either prepare students for careers or for transfer to longer degree-granting programs may be styled *subdegree institutions*. Institutions emphasizing education at the first-degree level only may be styled *undergraduate institutions*. Institutions providing both undergraduate and graduate programs, but which do not emphasize advanced research, may be styled *mixed institutions*. Institutions providing only graduate-level programs, but which do not emphasize advanced research, may be styled *graduate institutions*. Institutions emphasizing advanced research, and which typically offer programs leading to the research doctorate, may be styled *research institutions*. Finally, institutions offering programs that do not lead to degrees, diplomas, or certificates, but which are postsecondary, may be styled *special institutions*.

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[47] The author is indebted to Dr. A. R. Rajeswari, Joint Advisor to the Department of Science and Technology, New Delhi, for clarifying the status of the affiliating colleges.

Institutional type is operationally defined and coded according to a two-place alphanumeric system that takes both program breadth and level of emphasis into account. The first (lefthand) alphabetical code refers to the scope and variety of programs offered by an institution at each of the broad levels described above. These include

A	**Comprehensive Research Institution.** *A postsecondary institution offering a wide variety of programs leading to the research doctorate degree, whether or not other types of programs are also offered.*
B	**Specialized Research Institution.** *A postsecondary institution offering one or a few programs leading to the research doctorate degree, whether or not other types of programs are also offered.*
D	**Comprehensive Mixed Institution.** *A postsecondary institution offering a wide variety of academic and professional programs at both the undergraduate (first award) and graduate levels, and possibly the subdegree level, but which does not award research doctorate degrees.*
E	**Specialized Mixed Institution.** *A postsecondary institution offering one or a few academic and professional programs at both the undergraduate (first award) and graduate levels, and possibly the subdegree level, but which does not award research doctorate degrees.*
F	**Comprehensive Undergraduate Institution.** *A postsecondary institution offering a wide variety of academic and professional programs at the undergraduate (first award) level and possibly the subdegree level, but which does not offer any graduate-level programs.*
G	**Specialized Undergraduate Institution.** *A postsecondary institution offering one or a few programs at the undergraduate (first-award) level and possibly the subdegree level, but which does not offer any graduate-level programs.*
H	**Comprehensive Subdegree Institution.** *A postsecondary institution offering a wide variety of academic and professional programs below the level of the first (undergraduate) award, but which offers no programs at first award level or higher.*

I **Specialized Subdegree Institution.** *A postsecondary institution offering one or a few academic and professional programs below the level of the first (undergraduate) award, but which offers no programs at first award level or higher.*

J **Special Institution.** *A postsecondary institution offering programs of various types that do not lead to regular degrees or other awards and which may or may not result in traditional academic credit.*

Y **Other Postsecondary Institution.** *Any identified postsecondary institution not classifiable under other codes, including institutions offering programs not definable by level.*

Z **Unknown Postsecondary Institution.** *Any postsecondary institution about which too little is known to enable a precise type code assignment to be made.*

CDS determinations of level and type are keyed to ISCED-based calculations of program length and the nature of the study focus represented by a given program (research, professional qualification, instruction). The system does not segregate classes of postsecondary education or institutions by other criteria, such as whether a program or institution is classified as university-level or nonuniversity in a particular country. Consequently, the foregoing typology of research, graduate, undergraduate, and subdegree institutions encompasses all postsecondary institutions.

Comprehensive institutions of any type offer such a variety of programs that they cannot be said to emphasize any single field of study or narrow group of fields. There is no need, in such cases, to further specify the programmatic focus of the institution. Other institutions specialize in education in one field or a group of related fields. CDS identifies the nature of such specialization in the second alphabetical code of the two-digit institutional type code. The following codes are used to identify type of institutional specialization:

A **Comprehensive.** *The place code for a comprehensive institution as defined elsewhere in CDS.*

B **Liberal Arts.** *An institution offering programs in one or more of the humanities, social sciences, biological sciences, and physical sciences, but not in professional fields.*

C **Mixed Professional.** *An institution offering programs in one or more different professional fields, but not in academic subjects.*

D **Teacher Training.** *An institution offering programs primarily or exclusively designed to prepare school teachers of all subjects and levels as well as teaching staff in physical, vocational, and special education.*

E **Education.** *An institution offering programs preparing educators and educational researchers in a variety of specializations other than or in addition to teacher training, including administration, curriculum, psychology, counseling, and research and scholarship in education.*

F **Law.** *An institution offering programs primarily or exclusively to prepare professonal legal personnel, including lawyers, prosecutors and procurators, magistrates, judges, notaries, legal researchers and scholars, and legal support personnel such as paralegals.*

G **Defense/Security.** *An institution offering programs primarily or exclusively to prepare service personnel for the armed forces, the police forces, or other related public security services.*

H **Governmental.** *An institution offering programs primarily or exclusively to prepare civilian government professionals at the local, regional, national, or international levels in such fields as diplomacy and international affairs, public administration, public financial administration, and related administrative and technical support services. This category also includes the preparation of researchers and scholars in these specialized fields.*

I **Social Service.** *An institution offering programs primarily or exclusively to prepare students for social services careers, including the fields of social work, child development, welfare services, family services and counseling, employment services and counseling, home economics, community organization and services, and related administrative and technical fields.*

J **Religious.** *An institution offering programs primarily or exclusively to prepare students to enter religious vocations as clergy or other occupations related to religious service.*

K **Commercial and Business.** *An institution offering programs primarily or exclusively to prepare students for careers in various aspects of commerce and business administration in the private sector, including fields such as accounting, business information systems, marketing, enterprise operation, retailing, hospitality services, travel and tourism services, financial services, insurance, real estate, management services, personnel services and labor relations, office and clerical support, and related technical and research fields.*

L **Communications.** *An institution offering programs primarily or exclusively to prepare students in the communications media and related skills, including print and broadcast journalism, technical aspects of printing and broadcasting, public relations, library science, archival administration, and translation and interpretation.*

M **Alternative Health Professions.** *An institution offering programs primarily or exclusively to prepare practitioners or research personnel in one of the healing disciplines that may supplement or substitute for allopathic medicine, including chiropractic, clinical and counseling psychology, homeopathy, hypnotherapy, naturopathy, optometry, osteopathy, podiatry, psychoanalysis, and culture-specific traditional medical arts.*

N **Technical.** *An institution offering programs primarily or exclusively to prepare technicians and technologists for industry, public infrastructure, and engineering support functions including engineering-related technologies, industrial and production technologies, transportation technologies and operations, telecommunications technologies and operations, computer technology and operations, maintenance and repair technologies, building and construction technologies, and technical applications in the sciences and mathematics.*

O **Engineering.** *An institution offering programs primarily or exclusively to prepare students for professional careers in one or more branches of engineering, including the engineering sciences, computer and information sciences, and engineering specialties relating to management, production, and logistics.*

P **Architectural.** *An institution offering programs primarily or exclusively to prepare students for careers as architects and in related fields including landscape architecture, urban design and planning, environmental design, historic preservation, and architectural research and scholarship.*

Q **Allied Health and Nursing.** *An institution offering programs primarily or exclusively to prepare nurses and other allied health professionals, including medical administrative support personnel, laboratory technicians and technologists, diagnostic and treatment services personnel, rehabilitation and therapy services providers, medical assisting specializations, mental health services personnel, medical social workers, and speech pathologists and audiologists.*

R **Medicine and Dentistry.** *An institution offering programs primarily or exclusively to prepare students for careers in allopathic medicine and dentistry as physicians, dentists, surgeons, specialists, or researchers.*

S **Mixed Health Professions.** *An institution offering programs in more than one of the health professions and related clinical sciences.*

T **Visual Arts.** *An institution offering programs primarily or exclusively to prepare students for mastery of one or more of the visual or visual arts disciplines, including fine arts, applied and commercial art, design and* *decorative art, crafts, photography, film and cinematographic art, and related technical, scholarly, curatorial, and administrative fields.*

U **Theatre Arts.** *An institution offering programs primarily or exclusively to prepare students for mastery of one or more of the visual or theatre arts disciplines, including drama, acting, dance, directing, technical theatre specialties, production and management, writing and editing, choreography, and related scholarly and administrative fields.*

V **Music Arts.** *An institution offering programs primarily or exclusively to prepare students for mastery of one or more of the musical disciplines, including instrumental performance, ensemble performance, vocal performance, choral and operatic performance, conducting, theory and composition, production and management, and related scholarly fields.*

W **Mixed Arts.** *An institution offering programs in a combination of the visual and performing arts.*

X **Agricultural and Veterinary.** *An institution offering programs primarily or exclusively to prepare students for careers in agriculture and related fields, including forestry, fisheries, wildlife management, veterinary medicine, related agricultural science fields, and related agricultural management and production fields.*

Y **Other Specialization.** *Any specialization not classifiable under codes A–X in this typology.*

Z **Unknown Type.** *Any postsecondary institution about which too little is known to enable a precise type code assignment to be made.*

Defining Institutional Level

The level of an institution is simply the highest program completion award (degree, diploma, or certificate) conferred by it. It is coded precisely the same as for programs, using the educational level codes described previously (refer to Educational Level Codes in this Chapter).

Defining Geographical Regions

Persons using international data have always grouped countries into larger regions to suit particular research and policy-making needs. This custom has resulted in a great variety of regional classifications, no two of which are exactly alike. Some of them were developed to research specific problems — such as weather patterns, economic issues, communications links, and biological or ecological analyses —and are not always adaptable to other purposes. Others represent divisions based on the interests or convenience of a single country or organization —such as mapping immigration or emigration flow, or investments, or organizational membership —and do not represent an arrangement that users in other countries, or outside the organization, would find useful or acceptable. In yet other cases, there is broad agreement on regional concepts but no agreement on the precision of regional boundaries, as indicated by the universal acceptance of terms like "Northern Europe" or "East Asia," but considerable controversy over which countries actually belong in each region. (In most cases the answer varies with the purpose and subject of the proposed regional breakout.) For the above reasons, this coding system does not embed regional codes within the country identification code, as the previous system did. Since each country is assigned a code, users of this system are enabled to construct their own regional breakouts as they see fit.

A revised set of regional groupings are used by U.S. government agencies and contractors for analyzing and publishing SED foreign respondents data. These groupings are adapted from the set developed by the Institute for International Education (IIE), a domestic educational organization involved in sponsoring international exchanges and maintaining a database on foreign students who enroll in U.S. postsecondary institutions.[48] The IIE regional breakout is modified for SED purposes by the addition of countries not contained in the IIE listing and by accommodating the breakup of the former Czechoslovakia, Soviet Union, and Yugoslavia, and the unification of Germany. This regional breakout represents a revision of the regional breakout previously used for analyzing and publishing SED foreign student data.[49]

The revised SED regional grouping is presented in Part 2 of this Volume.

Defining a Country

For geographic coding purposes, every institution, individual respondent, and associated data element exists in relation to a specific country in which the institution or person is (or has been) located. Common usage treats the concept of a country the same as that of a sovereign state, but this is an inadequate analogy for a system that must contain isolable data on a variety of internationally recognized places of origin, residence, citizenship, and location. To accommodate the legitimate needs of researchers and data users, and the requirement of recognizing distinct macrosocial units for comparative purposes, CIDS uses the following conventions to operationally define a "country:"

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[48] This regional grouping is published in each edition of the annual IIE reports on foreign students enrolled in U.S. institutions. See Marianthi Zikopoulos, Ed., *Profiles: The Foreign Student in the United States, 1989–90*, (New York: Institute of International Education, 1991).

[49] OSEP/NRC, *Codes for Educational Institutions in Foreign Countries*, pp. 5–8.

- **a sovereign political entity** *occupying territory and containing a resident population of persons;*
- **an extraterritorial dependency** *of a sovereign political entity for which data are commonly reported separately from the sovereign's; and*
- **an internationally recognized population** *which possesses special status but does not constitute a territorial entity.*

The first operational convention, all sovereign nation-states, is self-evident. The second refers to a group of places that are not independent states (although they may be internally self-governing) but are nevertheless distinct societies whose data are generally reported under their own entries in references, which are located outside of the boundaries of the parent country (or are nonadjacent, if the parent is insular), and which may frequently constitute legitimate objects of separate study. Examples would include Puerto Rico, French Polynesia, Gibraltar, and Greenland. Nonsovereign entities located within the boundaries of or adjacent to the parent country are listed as subunits of that country. An example would be the Channel Islands, which are British dependencies located between the United Kingdom and France, and therefore adjacent to the parent country. The final category of place defined as a country is used to record data about populations and representative national organizations which possess international political and legal recognition but are neither territorially sovereign nor territorial dependencies of another state. Examples of such special status entities include Palestine and the Palestinian population, the Romani (granted special recognition by the European Union), and the Kurdish population. Individuals belonging to such populations and entities will frequently indicate it as the place of location, origin, residence, or citizenship, and institutions may identify themselves as being affiliated with such entities. These situations must be accommodated in the database system in order to avoid error.

Country codes may be used to describe the place of an individual student or staff member respondent's residency, citizenship, and birth, as well as the location of specific institutions. Such responses may include nonsovereign places, denoting territories, colonies, or even nationalities (especially in the case of stateless persons and institutions serving them), in addition to sovereign states. The coding system must reflect such realities. Furthermore, there is the need to reduce the effects of international political changes on data quality, and this is best accomplished by assigning country subcodes to all territorial entities that are commonly acknowledged and included in international data reporting.

Section 2 of this volume presents a list of all country codes assigned in this system.

The absence of a separate country subcode assignment for a particular entity, or the presence of such a subcode, is not meant to in any way imply recognition or non-recognition by the United States, or to constitute interference in the internal or external affairs of any state. These subcode assignments merely follow the accepted data reporting practices of public and private researchers and organizations concerned with international and comparative statistics.

Defining a Country Subdivision

Many countries included in the coding system possess internal subdivisions—such as states, provinces, or territories—that are commonly used for data reporting purposes. CDS provides the capability of analyzing international data by country subdivision in those cases where such a breakout is warranted. Special quantitative and qualitative criteria have been developed to determine when it is appropriate or necessary to do this.

Countries Defining Large Data Subsets. Country origin or location is a variable which, like any other in survey research, is subject to varied degrees of statistical manipulation based upon the size of the response for that variable data item. If the response and consequent data count are large enough over time, then data for a particular country may be broken out and analyzed by subdivision. The first criterion for doing a subdivision breakout, therefore, is the size of the data subset for a particular country.

The minimum threshold for breakout eligibility in CDS has been determined to be when the U.S. doctorate productivity for a country meets or exceeds a rounded average of 50 earned U.S. doctorates per year over the decade 1980–1989. Countries meeting this productivity threshold criterion include[50]:

Country	Totals, 1980–89	Rounded Annual Average
Australia	824	82
Brazil	1,355	136
Canada	3,146	315
China	1,870	187
Egypt	1,286	129
France	580	58
Germany	811	81
Greece	969	97
Hong Kong	1,070	107
India	5,293	529
Indonesia	557	56
Iran	2,748	275
Israel	1,075	108
Japan	1,204	120

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[50] Doctorate Records File Staff, NRC, *Non-U.S. Citizen Doctorate Recipients*, unpublished draft report, National Research Council, 1990, Appendix B, Table 3: "Country of Origin of Non-U.S. Citizen Doctorate Recipients, 1960–1989," pp. 114–116.

Jordan	684	68
Malaysia	626	63
Mexico	1,028	103
Nigeria	1,821	182
Pakistan	551	55
Philippines	580	58
Saudi Arabia	889	89
South Korea	4,449	445
Taiwan	7,305	731
Thailand	1,554	155
Turkey	848	85
United Kingdom	1,495	150
Venezuela	563	56

To accomodate the historical change that continues to occur in the pattern of donor countries, the threshold productivity criterion is also applied to countries of origin that respondents have increasingly indicated in recent years (within the last decade) and whose count of U.S. doctorate recipients currently exceeds 50 per year. The countries meeting this application of the criterion include:[51]

	Increase Rate	- Counts -	
Country	1980–89 (Percent)	1990	1991
Argentina	18.3	76	71
Chile	21.3	xx	65
Italy	53.1	84	111
Spain	23.5	71	98
Sri Lanka	48.8	77	64

A total of 32 donor countries meet the threshold criterion. Meeting this criterion is critical for making a subdivision breakout technically possible, but it is not the sole consideration.

Additional Justifications for Subdivision Breakouts. CDS assigns subdivision codes to a country when data for it meet the quantitative threshold criterion and when

- The national postsecondary educational system is large and complex enough to justify organization by subdivision in the database;

- Internal divisions of the country serve as the common official levels of aggregation and disaggregation for data collection, reporting, and publishing;

- Internal divisions of the country possess different local educational systems or structures, or represent culturally distinct areas; and

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[51] DRF/OSEP/NRC, *Non-U.S. Citizen Doctorate Recipients*, Appendix B, Table 3, pp. 114–116; and Delores H. Thurgood and Joanne M. Weinman, *Summary Report 1990 and 1991: Doctorate Recipients from United States Universities*, (Washington: National Academy Press, 1991 and 1992), pp. 11 (1990) and 5 (1991).

- Ongoing political developments create a need to organize country data by subdivision in order to reflect the possibility or reality of separations, partitions, or breakup.

Size and Complexity of the National Education System. Many countries which meet the threshold requirement for subdivision breakout also tend to be countries whose national systems of postsecondary education contain so many institutions that a regional breakout is needed in order to assign codes to each institution and allow for future changes and additions. The limitations of the code string (a 26-letter Roman alphabet and 10 Arabic numerals) justify such treatment in the case of Brazil (over 800 postsecondary institutions), China (over 1,000 postsecondary institutions), France (over 500 postsecondary institutions), Germany (over 400 postsecondary institutions), India (over 3,000 postsecondary institutions), Indonesia (over 400 postsecondary institutions), Iran (over 200 postsecondary institutions), Japan (over 300 postsecondary institutions), Mexico (over 300 postsecondary institutions), the Philippines (over 900 postsecondary institutions), South Korea (over 200 postsecondary institutions), Russia (over 600 postsecondary institutions), the United Kingdom (over 500 postsecondary institutions), and the United States (over 3,500 postsecondary institutions). In addition to raw numbers, the postsecondary educational systems of each country mentioned comprise a wide variety of types of institutions and programs.[52] The issue in regard to these systems is not that students come to the United States from every one of the institutions within them, but rather that the institutions from which students may come cannot be predicted with any certainty. Thus it is justifiable to include all potential institutions in the database.

Confederations, Federations, and Related Political Structures. Countries possessing confederal or federal systems of government, or which possess other constitutionally recognized internal divisions (such as a monarchical union of several states), generally employ such subdivisions as the basic level for collecting and reporting data and for disaggregating published national data. National data comprise aggregations of these subdivisional data sets, and the subdivisional data are frequently reported or published as part of national and international activities. Examples of federal or confederal arrangements among the countries meeting the threshold criterion include Australia, Canada, Brazil, Germany, India, Malaysia, Mexico, Nigeria, the Philippines (with states clustered into official regions), Russia (new constitution), and the United States. In addition, data for two OECD member states which are federations, and for one confederation, need to be broken out even though reported data do not meet the threshold criterion. These are Austria (a federal republic, Belgium (a federal monarchy), and Switzerland (a confederation). Each contains states or cantons representing different regional cultures and sometimes separate education systems, languages, and ethnic groups.

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[52] The actual counts of institutions for each country which meets the feasibility criteria may be found in Ann C. M. Taylor, ed., *International Handbook of Universities, Twelfth Edition* (Paris: International Association of Universities, 1991), printed in North America by the Stockton Press; and Eileen A. Archer, ed., *The Commonwealth Universities Yearbook* (London: Association of Commonwealth Universities, 1992); and various country-specific publications and unpublished lists. Refer to the References Section of this volume for lists of country-specific material consulted.

Countries possessing nonfederal political systems can also justify data breakout, especially where the threshold criterion is also met. The United Kingdom, which meets the threshold criterion, is a united constitutional monarchy whose subdivisions represent distinct societies and three different educational systems (England and Wales, Northern Ireland, and Scotland). Educational data for it are regularly broken out by subdivision. France and Spain are not federations but both have recently been reorganized internally along regional lines that reflect important cultural divisions, and these new regions are becoming the basis for planning and data reporting in several areas including education. Thailand also uses regional subdivisions for reporting educational data, with each region consisting of a cluster of several provinces. Other examples of threshold-meeting countries whose size and internal complexities justify such breakouts include Argentina, China, Indonesia, Italy, and Venezuela. While not federal in constitutional structure, each of these countries frequently reports data disaggregated by province or other internal unit, and these subdivisions reflect significant internal differences of an economic, sociocultural, and even political character.

Internal Conditions Presenting Special Cases. Internal situations may require data breakout for a few countries that do not meet any other criteria. Cyprus, for example, is currently under a United Nations-monitored cease-fire arrangement separating a predominantly Greek section controlled by the internationally recognized government of the Republic of Cyprus from a predominantly Turkish section occupied by Turkish forces and possessing a government recognized only by Turkey. Each of these governments operates its own educational system. Data for Cyprus as a whole are meaningless unless a means exists for separating Greek Cypriot and Turkish Cypriot data.

Another example is the former Yugoslavia. The current Yugoslav Federation consists of Serbia, its current ally Montenegro, and two regions of former Yugoslavia still controlled by Serbia (Kosovo and Vojvodina). Other components of what was Yugoslavia have broken away and are now treated as sovereign states. This political situation is subject to further possible change. CDS needs to accommodate that reality by breaking out reported data for this remnant of the former Yugoslavia. South Africa is also undergoing fundamental political transformation as well, and possesses distinct internal regions and populations, not to mention that its historical data represent distinct internal separations created during the period of *apartheid*.

The complex issues of nationality, residence, and jurisdictional location in regard to the Israeli-occupied areas of the West Bank and Gaza require the breakout of Israeli and Jordanian country data in addition to, as previously mentioned, the creation of a Palestine country code.

Eligible Countries Not Requiring Subdivisional Breakout. Some countries that meet the data threshold criterion do not require subdivisional breakout. Place locations that constitute single urban areas are not subdivided in this database system regardless of their political status; thus Hong Kong is not assigned subdivision codes. Furthermore, Hong Kong is reverting to China in 1999 when it may become a fourth municipality with provincial status (after Beijing, Shanghai, and Tianjin).

In other cases internal breakout data are provided by place location better than by subdivision. Examples include countries like Egypt and Saudi Arabia, where geographic conditions mean that the population of even rather large governorates (Egypt) or districts (Saudi Arabia) resides mainly or exclusively in specific towns and cities rather than being distributed across the territorial jurisdiction. Educational institutions are likewise located in these population centers rather than in smaller cities, towns, or rural areas. A subdivision breakout for data from countries with the geography of Egypt or Saudi Arabia would not improve data quality or analytical precision. Identification of the place location for a student, institution, or program is sufficient to also identify subdivision.

Other cases in which subdivisional breakout is neither necessary nor useful, despite meeting the data threshold requirement, include Greece, Sri Lanka, and Turkey. Each of these cases either sends too few U.S. doctorate recipients annually to be broken out by the relatively large number of internal subdivisions used or does not commonly use a subdivisional breakout in data reporting. (Turkey, for example, has 68 provinces and no recognized official means of aggregating these into a smaller number of clusters, while producing an average of 85 U.S. doctorates a year.)

Based on the reasoning stated above, country subdivision breakouts are used in CDS for the following countries:

AR	Argentina
AU	Australia
AT	Austria
BE	Belgium
BR	Brazil
CA	Canada
CL	Chile
CN	China
CY	Cyprus
FR	France
DE	Germany
IN	India
ID	Indonesia
IR	Iran
IL	Israel
IT	Italy
JP	Japan
JO	Jordan
KR	Republic of Korea
MY	Malaysia
MX	Mexico
NG	Nigeria
PK	Pakistan
PH	Philippines
RF	Russia
ZA	South Africa
ES	Spain
CH	Switzerland
TH	Thailand
GB	United Kingdom
US	United States
VE	Venezuela
YU	Yugoslav Federation

Section Two of this volume presents the country subdivision codes used in CDS for each of the countries listed above.

The absence of a country subdivision breakout, or its presence for a given country, is not meant to in any way constitute a judgement by the United States about the internal affairs of any state. In all cases of subdivision breakouts, the listed subdivisions are those recognized by the government of the state concerned and regularly used in data reporting. It should be noted again, however, that extraterritorial dependencies are assigned separate country codes in this data system, in order to allow researchers the option of either treating these societies (often exhibiting distinct differences from that of the home country) as elements of the parent country or as objects of study in their own right. Such assignments are based on common research usage, and do not in any way imply a political judgement. Users desiring to aggregate all data about a given sovereign state, including dependencies, can do so in the same way that regional aggregations can be constructed.

Defining a Place

All data pertaining to location is ultimately focused on some specific point within a country, generally a city, town, village, or rural address. Such a point, in the SED coding system, is called a place location. Place is used to locate both individuals (in terms of residence) and the institutions they have attended and are attending. The almost infinite variety of place locations makes assigning codes to every potential place impossible. Instead, places are assigned codes only as they are indicated by respondents and for the addresses of known postsecondary institutions.

For countries which are broken into subdivisions, places are assigned codes by subdivision. Thus, places in Wales—a United Kingdom subdivision—are numbered (that is, coded) in one sequence, while places in other United Kingdom subdivisions (England, Man, Northern Ireland, Scotland) are numbered in separate sequences. Countries without subdivision codes have all reported places numbered in a single sequence. Also, single large urban areas (such as Hong Kong, New York, Paris, Singapore, Tokyo, Mexico City, and others) are assigned a single place subcode, and are not broken up into separately coded districts or other subunits. (As the illustrations suggest, this is true whether they are independent city-states or internal jurisdictions.) In all cases, place numbering occurs in the order in which place locations are reported and recorded by coders. These solutions satisfy the need to accommodate diversity of place location without creating the sort of excessive detail that would threaten the capacity of the data system as well as be of questionable utility.

The absence of a place subcode, or its presence for a given entity, is not meant to in any way constitute a judgement by the United States about the internal affairs of any state. In all cases of place assignment, the listed places are only those which are recognized by the government of the state concerned as a *bona fide* urban/metropolitan area, city, town, village, or rural address point.

Section 2 of this volume presents a complete list of all place codes assigned in this system for reporting institutional data.

Defining Primary Language of Instruction

Each postsecondary institution delivers instruction, accepts research papers, and conducts examinations in one or more languages. While multiple languages may be accepted by the institution or specific faculties in certain cases, such as research papers or examinations (especially in cultural and linguistic studies), in practice one or two languages are usually recognized as institutional vernaculars. And, where more than one such language are used, one generally takes priority and is the most common.

The primary language of instruction used by an institution, then, may be defined as *the official language of instruction or, where more than one exist, the predominant language used by faculty and institutional officers for instructional purposes and reported as such.* "Predominant," in this usage, means the language listed first by institutions reporting their official languages of instruction. Identification of the primary language of instruction is facilitated by periodic reports made by the institutions themselves to international organizations such as the IAU and the Commonwealth Universities Council (CUC). CDS adapts the IAU/TRACE list of known primary languages of instruction for use in coding this variable.[53]

A primary language of instruction is usually, but not necessarily, the same as the official language of the country within which an institution is located. The primary language of instruction may instead be one of several official or popular languages, the language of a former imperial power retained as a vernacular, or some other language adopted for special reasons. Data on the primary language of instruction of each institution at which an SED respondent has studied may shed light on the linguistic capabilities of foreign graduate students in the United States, particularly those languages which have been used for postsecondary study. Such languages may differ from both the respondent's native language and the official language of his or her country of citizenship or residence. The data thus obtained enable identification of languages which individual respondents have had to use in completing academic programs, and in which they may therefore be expected to be fluent for academic purposes.

A presentation of the primary language of instruction subcodes assigned in CDS appears in Section 2 of this volume.

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[53] TRACE *User Manual*, Annex 2: "Language Codes," pp. 24–26.

CHAPTER 4

Implementing CDS

The Survey of Earned Doctorates collects individual respondent data pertaining to geography, academics, and future plans. These data are obtained from the following SED questionnaire items:

Item No.	Data Requested
2.	Permanent Address (Place, Country Subdivision, Country)
4.	Place of Birth (Country)
7.	Citizenship (Country) and U.S. Visa Status
12.	Location of Secondary School Last Attended (Country) and Year of Graduation
13.	Chronological List of Colleges and Universities Attended (Including 2-Year Colleges), Years Attended, Field(s) Studied, Degrees Earned, and Dates Earned
14.	Number of Years of Full-Time Study Between First Baccalaureate Degree (or Equivalent) and Receiving U.S. Doctorate
15.	Field of U.S. Doctoral Study
16.	Department or Other Subunit of University Supervising the U.S. Doctorate
24.	Location of Intended Work/Study/Residence After Graduation (Place, Country)

Responses to these items are coded using the following parts of the SED coding system:

Item No.	Code or Codes Used
2.	Place Code, Country Subdivision Code (where applicable), and Country Code (Regional Grouping also applicable)
4.	Country Code (Regional Grouping also applicable)
7.	Country Code (Regional Grouping also applicable)

12. Country Code (Regional Grouping also applicable)

13. Institutional Code, Program Completion Award Code, Program Type Code

14. None, related to codes in Item 13

15. Program Type Code

16. None, related to codes in Item 13

24. Place Code, Country Subdivision Code (where applicable), and Country Code (Regional Grouping also applicable)

All of the codes listed here have been operationally defined in Chapter 2, and they are presented in Part 2 of this Volume and in Volumes 2 and 3.

Regional Groupings. CDS does not employ specific codes for regional groupings of countries. Individuals or organizations wishing to create regional groupings for different purposes may create them by software sort commands or by hand.

Country Codes. Each country, as defined in Chapter 2, is assigned a two-character code consisting of letters of the version of the Roman alphabet used in writing standard English. A typical country code entry looks like this:

KW KUWAIT

If a country is a dependency, its name will be followed, in brackets, by the italicized name of the sovereign, thus:

AN NETHERLANDS ANTILLES [*Netherlands*]

And, if a country is known by an alternative name that might be used by a respondent, it will be indicated, in ellipses, after the standard or official name:

MD MOLDOVA {Moldavia}

Country code YY is reserved for other responses, and code ZZ is reserved for unknown cases and nonresponses. The two-character country code permits the assignment of up to 676 unique country codes, far more than are required at present or that are likely to be needed in the foreseeable future. Where possible, this system uses the same alphabetic country codes that are assigned in the IAU/TRACE coding system.[54]

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[54] IAU/TRACE, *User Manual*, Annex 1: Country Codes, pp. 20–23.

Part 3 presents a list of all country subcodes assigned in this system, and includes (where applicable) a crosswalk of this system's country code assignments to/from those used in previous coding systems.

Country Subdivision Codes. The country subdivision code, when used, is a two-character code consisting of the Arabic numerals 00 to 99. A typical country subdivision code entry looks like this:

US UNITED STATES

01 Alabama

Subdivision codes are grouped under the appropriate country code and assigned codes, starting with "01," in the alphabetical order of the subdivision names. Countries assigned subdivision subcodes possess no more than 98 constituent states, provinces, or other major subdivisions, so the two-digit coding solution is satisfactory. The placement of this subcode is always at the beginning of the Variable Data Code, reading from left to right, starting with the seventh character.

Users should note that the code "00" is reserved and assigned whenever there is no subdivision breakout. The "98" code is reserved for other responses and code "99" for unknown cases and nonresponses.

Place Codes. Unlike country codes, place codes are not assigned to all possible locations as defined in Chapter 2. Place codes are assigned as needed to those local address points (cities, towns, villages, rural points) that respondents indicate. The code consists of a four-digit numerical string from 0000 to 9999. Places are assigned codes in sequence beginning with 0001. The "0000" code is reserved for unknown cases and nonresponses. Place codes look like this:

0001 Kabul

The example above is from Afghanistan, a country which is not broken out by subdivisions. In the case of countries which are subdivided, the treatment is the same except that places are numbered from 0001 to 9998 for each subdivision. Code 9999 is assigned to place responses other than those known to be located within a given country or subdivision, while code 0000 is assigned to unknown cases and nonresponses. In order to avoid duplication error, place codes are always used in conjunction with the appropriate country and country subdivision codes.

In all cases, large urban areas (such as New York, Paris, Tokyo, Mexico City, and others) are assigned a single place subcode, and are not broken up into separately coded districts or other subunits. Respondents are not asked to indicate within-city locations and are not likely to do so, nor would such detail be practical or cost effective.

Program Completion Award Codes. Program completion award data are requested in Item 13 of the SED survey instrument. These data are coded using the education level codes defined in Chapter 2, consisting of a series of two-digit strings in which the first (left-hand) number refers to the ISCED educational level and the second (right-hand) number to the specific sublevel of the award. A typical completion award code looks like this:

UNITED STATES (US)

70 Juris Doctor / Bachelor of Laws (JD, LLB) / [Law]

The code indicates that this is a degree which requires six or more years to complete (seven in this case); that it is not considered a graduate (second) degree but rather a first degree (in this case a second first degree); and indicates its title and any alternative, title abbreviation, and the subject studied in order to earn the degree (in this case professional).

When a program completion award code is used in a code string to indicate institutional level (highest award granted), the same 2-digit code appears at the end of the code string for the institution in question.

Each known postsecondary award is assigned a program completion award code, and these are presented by country in Volume 2. Not all countries possess postsecondary education systems of their own, and thus degrees structures. Users are reminded that the assignment of these codes is based upon the level of education represented by secondary school completion as defined and discussed in Chapter 2.

Two decision rules have also been adopted to deal with program completion awards coding.

- In counting required time in years necessary to earn a specific award (one step in the code assignment process), the *minimum* time — as reported by the institutions awarding the credential — is the figure used. This is the standard practice followed in institutional and national reports on postsecondary degree structures that are submitted to international organizations.

- Respondents to SED who write in a U.S. degree title or abbreviation (A.A./A.S., B.A./B.S., M.A./M.S., Ph.D., etc.) rather than the actual title or abbreviation of the degree they earned at a non-U.S. institution will be coded according to the ISCED/institutional level subcode to which that particular U.S. degree award is assigned.

Program Type Codes. SED employs a standard set of field codes for respondents' use in indicating both the field of studies of previous degree programs and the field of study for the U.S. doctorate. The field codes are attached to the questionnaire in an appendix called the *Specialties List*, which groups the fields by broad subject matter area. A typical field code consists of a three-digit numerical string, thus:

The first (left-hand) number refers to the broad subject matter area, while the remaining digits identify the specific field. There are currently 274 fields with assigned codes, grouped into 25 broad subject matter areas. Code "999" is reserved for other and unknown responses. The field codes are linked via crosswalks to the Classification of Instructional Programs (CIP), the U.S. government's standard education program classification system. CIP program codes are, in turn, linked via crosswalks to ISCED.[55] These linkages enable users to sort and analyze SED program completion data in a variety of ways.

A list of current SED program completion codes is presented in Part 2 of this Volume.

The Special Case of Institutional Data

Institutional data are collected via Item 13 in the SED questionnaire, which asks respondents to indicate the previous institutions from which they have received postsecondary degrees. Item 13 is a complex response item consisting of blocks for reporting up to 6 previous institutions, years attended, fields of study, degree titles, and dates awarded. The SED coding system incorporates variable data that are not directly collected into the code string assigned to each institution indicated by respondents. These indirectly collected institutional data include institutional level, type, and primary language of instruction. Indirect institutional data are embedded in the code string of 17 alphanumeric characters forming the code for each postsecondary institution.[56]

The data to be collected and analyzed via this system are of two types: that which identifies an institution and that which provides specific information about it.

- *Identification data* consist of basic information about institutions that are included in the database, including name and location.
- *Specific data* include such variable items as institutional type, level, and primary language of instruction used.

Identification data are subsumed under a code string called an *Institutional Identification Code*; specific data under a code string collectively called a *Variable Data Code*. For all institutions, both codes are presented together in a 17-character string. The example used in Chapter 2 is repeated here for consistency's sake:

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[55] See Robert L. Morgan, E. Stephen Hunt, and Judith Carpenter, *Classification of Instructional Programs 1990*, (Washington: U.S. Department of Education, 1991); and E. Stephen Hunt, *A Guide to the International Interpretation of United States Educational Program Data: CIP, IPEDS, CCD, and ISCED*, (Washington: U.S. Department of Education, 1993).

[56] The alphanumeric code string uses the 26-letter Roman alphabet as employed for the English Language, and standard Arabic numerals 1–9 and 0.

US0001010001ENAA73

In the CDS code sequence, the institutional data code string is broken out as follows:

US	Country Code
0001	Identifier Number
01	Country Subdivision Code
0001	Place Code
EN	Primary Language of Instruction Code
AA	Institutional Type Code
73	Institutional Level Code

Readers will recall that this is the institutional code for Alabama A & M University, an institution located in the State of Alabama, United States of America. Each of these codes will be described in turn.

Country Code - US. This code is the standard SED country code for the country in which the institution is located.

Identifier Number - 0001. The identifier number consists of a four-digit string of Arabic numerals from 0001-9998. Alabama A & M is the initial institution located in the United States to be assigned a code, and is thus assigned the number 0001.

The combination of the country code and identifier number produces a code string unique to each institution. In the case of the example, Alabama A & M University, that unique code string is US0001. This string is called the **Institutional Identification Code** and is used by coders to identify the institution.

Country Subdivision Code - 01. Like the country code, the country subdivision code is the standard SED country subdivision code for the country subdivision in which the institution is located. The code used in this example is for the U.S. subdivision of Alabama.

Place Code - 0001. Place codes for institutions are also identical to those used for individual respondent data, and indicate the location point of the institution. Since place codes are assigned in the order in which encountered, the example, Alabama A & M University, has a place code of 0001 to indicate that the town in which it is located — Normal, Alabama — is the first place assigned a code in the first subdivision (Alabama) of the country (United States).

Primary Language of Instruction Subcode - EN. Immediately following the place code is a two-character *Primary Language of Instruction Code* consisting of two letters of the Roman alphabet from A to Z. These letters together comprise a code from AA to ZZ that identifies the primary language used by the institution concerned in its instructional activities. Where an institution uses more than one language in instruction, the code identifies the language that is considered to be the main one and listed first by the institution itself. Code ZZ is reserved for institutions where the primary language of instruction is unknown. A typical code, when presented, looks like this:

EN English

EN happens also to be the primary language of instruction code for the institutional code example, Alabama A & M University.

Primary Language of Instruction Codes follow those used by the IAU/TRACE system.[57] Since the number of such languages in use is limited (far fewer, for example, than the number of recognized languages), the number of codes for this variable does not exceed the number of possible subcode assignments (676).

Institutional Type Code - AA. Institutional type is recorded by means of a two-character subcode consisting of letters of the Roman alphabet from A to Z located immediately following the primary language of instruction subcode. The institutional type codes used in this coding system have been defined and described in Chapter 2. In this example the first, or lefthand, letter A means that Alabama A&M University is a comprehensive research institution offering the research doctorate degree, and the second or righthand letter indicates the same (a comprehensive institution cannot simultaneously be specialized).

Institutional type codes are not assigned except within the institutional code string. Section 2, Part 9 presents a complete list of all institutional type codes assigned in this system.

Institutional Level Code - 73. The final characters in the institutional code string consist of a two-digit numerical code which indicates the level of the highest degree awarded by the institution. This code is identical to the program completion code described in Chapter 3 and based on the education level code sequence defined in Chapter 2. In this case the code number 73 indicates that Alabama A&M University awards the research doctorate.

Note that regarding institutional award data, this code refers only to the highest degree that a given institution awards. Many institutions award credentials at lower levels as well, so that this data element often indicates the highest limit of a range of awards rather than the sole award made.

Volume 2 presents a complete list of all program completion award codes assigned in CDS, which are also used as institutional level codes. Volume 3 presents a complete list of all known postsecondary institutions by country, listed by institutional code. The six-character institutional identification code string is highlighted and obsolete codes assigned under the previous coding systems are listed beneath the current code, enclosed in parentheses.

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[57] See IAU/TRACE, *User Manual*, Annex 2: Language Codes, pp. 24–26.

Textual Conventions Used

Several textual conventions have been used in the Chapters of Section 1 and the Parts of Section 2 in an effort to make this publication easier to read and understand. They include the following:

- *Institutional Identification Codes* and subcode elements are printed in boldface type, thus: **XX0000**;
- *Variable Data Codes* and subcode elements are printed in regular type, thus: 000000XXX00;
- *All other codes* listed in crosswalks are printed in regular type and are enclosed in parentheses ();
- *Nonsovereign country titles* are followed by the italicized title of the parent country in brackets [];
- *Institutional Titles* are printed in upper- and lower-case letters in boldface type in the primary language of instruction or in the romanized transcription of the primary language, if it does not use the Roman alphabet;
- *English translations* of institutional titles, where appropriate, are printed in regular type and enclosed in parentheses () immediately following the title in the primary language of instruction;
- *Alternative or historical titles* are enclosed in ellipses {};
- *Institutional data entry format* always begins with the code string (institutional followed by variable) flush left, followed by the title in the primary language of instruction, English translation (if appropriate), an alternative title (if appropriate), and the place location (enclosed in brackets); and
- *Obsolete codes* from the previous SED coding systems are indicated in Parts 2, 3, and 11 of Section 2 enclosed in parentheses (). These are provided to guide users who may need to crosswalk, where possible, from the old systems to the new.

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The coding system presented in this Volume benefits from the work of a number of authorities and a variety of primary and secondary sources. Many of these sources are cited in the text of Volume 1, while others have been used to construct the database system structure presented in Volumes 2 and 3. In most cases it has been possible to construct data element codes from standard references and the official reports of international organizations and U.S. government-sponsored analyses. Other sources, including country-specific material, have been consulted where necessary in order to clarify and resolve data issues, cover important changes within an educational system in recent years, and obtain needed information not otherwise available.

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SECTION TWO:

DATA CODES USED IN CDS

Codes Used in CDS

Section Two of *Mapping the World of Education* presents the standard variable codes used in CDS. These are contained in Parts 2, 3, 4, 6, and 7. Part 1 presents the regional groupings of country codes used to aggregate data for federal publishing purposes, and Part 5 presents the standard NSF educational program codes and their counterparts in the Classification of Instructional Programs (CIP). The contents of Section Two therefore include:

Part 1	Geographical Regions Used in U.S. Analyses and Publication of Comparative Data
Part 2	Country Codes
Part 3	Country Subdivision Codes
Part 4	Primary Language of Instruction Codes
Part 5	Standard Program Codes
Part 6	Institutional Type Codes
Part 7	Institutional Level/Program Completion Award Codes

The presentation of codes in this Section follows the order of the CDS institutional data code string. That code string, which is discussed in detail in Section One, is:

Sample Code String for Alabama A&M University
Normal, Alabama, USA

US0001010001ENAA73

(where)

US = Country Code

0001 = Institutional Identifier Number

01 = Country Subdivision Code

0001 = Place Code

EN = Primary Language of Instruction Code

AA = (Institutional) Type Code

73 = (Institutional) Level Code

Regional codes are not part of the standard CDS coding structure. Program codes are the same as those used for general SED coding purposes by NSF, and are linked to NCES CIP codes by means of crosswalks. The program codes do not form part of the CDS structure per se, but are used with CDS in order to provide data on respondents' academic histories.

Users will note that CDS place codes are not presented here. They would normally be found in code string order between the country subdivision codes and the primary language of instruction codes. Place codes are described in Chapters 3 and 4 of Section One. Reasons of space preclude the listing of all places currently assigned CDS codes and this list grows too rapidly to be conveniently and economically updated in print.

PART 1

Geographical Regions Used in U.S. Analyses and Publication of Comparative Data

The following assignments of countries to geographic regions are used within the United States to summarize aggregate data reported via CDS and published at the federal level. These regional breakouts may have limited or no utility elsewhere and thus are not formally part of CIDS, nor are regional coding assignments made (see Chapter 3).

Where applicable, regional and country codes used in the former SED coding systems are indicated in the column to the left of the new regional and country assignments. Gaps occur because either the former system assigned no corresponding country code or because no continuity exists between a former and a current regional assignment.

Regional titles are printed in full capital letters in boldface type. Country titles are printed in upper- and lowercase letters in regular type. Refer to Part 2 for a presentation of CIDS country codes.

Old Code	New Code	New Organization
		CENTRAL AFRICA
(TA)	AO	Angola
(QB)	CM	Cameroon
(SB)	CF	Central African Republic
(SC)	TD	Chad
(TD)	CG	Congo
(QD)	GQ	Equatorial Guinea
(TE)	GA	Gabon
	ST	Sao Tomé & Principe
(TV)	ZR	Zaire
(S)		**EASTERN AFRICA**
(SZ)		"
	DG	British Indian Ocean Territory
(TC)	BI	Burundi
	KM	Comoros
(SE)	AI	Djibouti
	ER	Eritrea
(SD)	ET	Ethiopia
(TF)	KE	Kenya
(TH)	MG	Madagascar

(TJ)	MW	Malawi
(TK)	MU	Mauritius
	TM	Mayotte
(TL)	MZ	Mozambique
	RE	Réunion
(TN)	RW	Rwanda
(TP)	SC	Seychelles
(SG)	SO	Somalia
(TT)	TZ	Tanzania
(TU)	UG	Uganda
(TW)	ZM	Zambia
(TM)	ZW	Zimbabwe
		NORTHERN AFRICA
(QA)	DZ	Algeria
(SA)	EG	Egypt
(SF)	LY	Libya
(QM)	MA	Morocco
(SH)	SD	Sudan
(QV)	TN	Tunisia
(QT)	PO	Western Sahara
(T)		**SOUTHERN AFRICA**
(TZ)		"
(TB)	BW	Botswana
	BV	Bouvet Island
(TG)	LS	Lesotho
(TR)	NA	Namibia
(TQ)	ZA	South Africa
(TS)	SZ	Swaziland
(Q)		**WESTERN AFRICA**
(QZ)		"
(QC)	BJ	Benin
(QW)	BF	Burkina Faso
	CV	Cape Verde
(QE)	GM	Gambia
(QF)	GH	Ghana
(QG)	GN	Guinea
(QQ)	GW	Guinea-Bissau
(QH)	CI	Ivory Coast
(QJ)	LR	Liberia
(QK)	ML	Mali
(QL)	MR	Mauritania
(QN)	NE	Niger

(QP)	NG	Nigeria
	SH	Saint Helena
(QR)	SN	Senegal
(QS)	SL	Sierra Leone
(QU)	TG	Togo
(G)		**(FORMER) EASTERN EUROPE**
(GZ)		"
(GA)	AL	Albania
	BA	Bosnia & Herzegovina
(GB)	BG	Bulgaria
	HR	Croatia
(GC)	CZ	Czech Republic
	EE	Estonia
(GE)	HU	Hungary
	LV	Latvia
	LT	Lithuania
	MK	Macedonia
(GF)	PL	Poland
(GG)	RO	Romania
	SK	Slovakia
	SI	Slovenia
(GJ)	YU	Yugoslav Federation
(H)		**WESTERN EUROPE**
(EZ)		"
(FZ)		"
(HZ)		"
(HA)	AD	Andorra
(FA)	AT	Austria
(HB)	BE	Belgium
(LE)	CY	Cyprus
(EA)	DK	Denmark
	FO	Faeroe Islands
(EB)	FI	Finland
(HC)	FR	France
(FB)	DE	Germany
(FC)	"	"
(FD)	"	"
(HD)	GI	Gibraltar
(GD)	GR	Greece
(EC)	IS	Iceland
(ED)	IE	Ireland
(EP)	"	"
(FE)	IT	Italy

(FF)	LI	Liechtenstein
(HE)	LU	Luxembourg
(FG)	MT	Malta
(HF)	MC	Monaco
(HG)	NL	Netherlands
(EE)	NO	Norway
(HH)	PT	Portugal
	SM	San Marino
(HJ)	ES	Spain
(EF)	SE	Sweden
(HK)	CH	Switzerland
	GB	United Kingdom
(EK)	"	"
(EL)	"	"
(EM)	"	"
(EN)	"	"
	VA	Vatican State
(GH)		**COMMONWEALTH OF INDEPENDENT STATES (CIS)**
	AM	Armenia
	AZ	Azerbaijan
	BY	Belarus
	GE	Georgia
	KZ	Kazakhistan
	KG	Kyrgyzstan
	MD	Moldova
	RU	Russia
	TJ	Tajikistan
	TM	Turkmenistan
	UA	Ukraine
	UZ	Uzbekistan
(C)		**CARIBBEAN**
(CZ)		"
	AA	Anguilla
	AG	Antigua & Barbuda
	AW	Aruba
(CA)	BS	Bahamas
(CB)	BB	Barbados
	VG	British Virgin Islands
	KY	Cayman Islands
(CD)	CU	Cuba
(CN)	DM	Dominica
(CE)	DO	Dominican Republic

	GD	Grenada
(CF)	GP	Guadeloupe
(CG)	HT	Haiti
(CH)	JM	Jamaica
(CJ)	MQ	Martinique
	MS	Montserrat
(CK)	AN	Netherlands Antilles
	PR	Puerto Rico
	KN	Saint Kitts & Nevis
	LC	Saint Lucia
	VC	Saint Vincent & Grenadines
(CL)	TT	Trinidad & Tobago
	TC	Turks & Caicos Islands
	VI	U.S. Virgin Islands
(B)		**CENTRAL AMERICA**
(BZ)		"
(BA)	BZ	Belize
(BB)	CR	Costa Rica
(BC)	SV	El Salvador
(BD)	GT	Guatemala
(BE)	HS	Honduras
(BG)	NI	Nicaragua
(BH)	PA	Panama
	CZ	Panama Canal Zone
(A)		**NORTH AMERICA**
(CC)	BM	Bermuda
(AA)	CA	Canada
	GL	Greenland
(BF)	MX	Mexico
	PM	Saint Pierre & Miquelon
	US	United States
(D)		**SOUTH AMERICA**
(DZ)		"
(DA)	AR	Argentina
(DB)	BO	Bolivia
(DC)	BR	Brazil
(DD)	CL	Chile
(DE)	CO	Colombia
(DF)	EC	Ecuador
	FK	Falkland Islands
(DG)	GF	French Guiana
(DH)	GY	Guyana

(DJ)	PY	Paraguay
(DK)	PE	Peru
(DL)	SR	Suriname
(DM)	UY	Uruguay
(DN)	VE	Venezuela
(J)		**EAST ASIA**
(JZ)		"
(JB)	CN	China
(JE)	HK	Hong Kong
(JF)	JP	Japan
(JH)	KP	Korea, Democratic People's Republic of
(JJ)	KR	Korea, Republic of
(JL)	MO	Macau
(JN)	MN	Mongolia
(JC)	TW	Taiwan
		SOUTH ASIA
(LA)	AF	Afghanistan
(LS)	BD	Bangladesh
(LC)	BT	Bhutan
(LF)	IN	India
(LX)	"	"
(LP)	MV	Maldives
(LR)	NP	Nepal
(LT)	PK	Pakistan
(LU)	"	"
(LD)	LK	Sri Lanka
		SOUTHEAST ASIA
(NB)	BN	Brunei
(JG)	KH	Cambodia
	TP	East Timor
(NF)	ID	Indonesia
(JK)	LA	Laos
(JM)	MY	Malaysia
(JA)	MM	Myanmar
(NM)	PH	Philippines
(JP)	SG	Singapore
(JQ)	TH	Thailand
(JR)	VN	Viet Nam
(L/M)		**SOUTHWEST ASIA/MIDDLE EAST**
(LZ)		"
(LB)	BH	Bahrain

(LG)	IR	Iran
(LH)	IQ	Iraq
(LJ)	IL	Israel
(LK)	JO	Jordan
	KD	Kurdistan
(LM)	KW	Kuwait
(LN)	LB	Lebanon
(LQ)	OM	Oman
(LL)	PS	Palestine
(LV)	QA	Qatar
(LW)	SA	Saudi Arabia
(LY)	SY	Syria
(MA)	TR	Turkey
(MB)	AE	United Arab Emirates
(ME)	YE	Yemen
(MC)	"	"
(MD)	"	"
(N)		**AUSTRALASIA AND PACIFIC**
(NZ)		"
	AS	American Samoa
(NA)	AU	Australia
	RB	Belau
	CX	Christmas Island
	CI	Cocos Islands
	CK	Cook Islands
	EI	Easter Island
(NC)	FJ	Fiji
(NE)	PF	French Polynesia
	GU	Guam
	JT	Johnson Island
	KI	Kiribati
	RM	Marshall Islands
	FM	Micronesia
	MI	Midway Islands
(NG)	NR	Nauru
(NH)	NC	New Caledonia
(NK)	NZ	New Zealand
	NU	Niue
	NF	Norfolk Island
	NM	Northern Marianas
(NL)	PG	Papua New Guinea
(NJ)	"	"
	PN	Pitcairn Islands
(NN)	SB	Solomon Islands

	TK	Tokelau
(NP)	TO	Tonga
	TU	Tuvalu
(NR)	VU	Vanuatu
	WK	Wake Island
(ND)	WF	Wallis & Futuna Islands
(NQ)	WS	Western Samoa
	ZZ	**OTHER/UNKNOWN COUNTRY/REGION**
	VZ	"

In addition, three historical cases requiring special treatment are aggregated and reported as follows when a need to report data arises. These cases are analyzed below and presented in italics in order to avoid confusion with the primary coding list above.

		(PRE-1972 PAKISTAN)
(LS)	*BD*	*Bangladesh*
(LT)	*PK*	*Pakistan*
(LU)	"	"

The historical data coded under old country code LU are recoded as necessary under country codes BD or PK, whichever is appropriate in terms of location. For pre-1972 Pakistan data, pre-1972 data under codes BD and PK are aggregated.

		(PRE-1991 YUGOSLAVIA)
	BA	*Bosnia & Herzegovina*
	HR	*Croatia*
	MK	*Macedonia*
	SI	*Slovenia*
(GJ)	*YU*	*Yugoslav Federation*

The historical data coded under old country code GJ are recoded as necessary under country codes BA, HR, MK, SI, or YU, whichever is appropriate in terms of location. For pre-1991 Yugoslavia data, pre-1991 data under codes BA, HR, MK, SI, and YU are aggregated.

(GH)		***(FORMER SOVIET UNION) (USSR)***
	AM	*Armenia*
	AZ	*Azerbaijan*

BY	*Belarus*
EE	*Estonia*
GE	*Georgia*
KZ	*Kazakhistan*
KG	*Kyrgyzstan*
LV	*Latvia*
LT	*Lithuania*
MD	*Moldova*
RU	*Russia*
TJ	*Tajikistan*
TM	*Turkmenistan*
UA	*Ukraine*
UZ	*Uzbekistan*

The historical data coded under old country code GH are recoded as necessary under one of the above-listed new country codes, whichever is appropriate in terms of location. For pre-1991 Soviet data, pre-1991 data under these codes are aggregated.

PART 2

Country Codes

Names of countries and other entities included in this subcode listing are those most commonly in use, and are based on internationally recognized data code assignments made by the International Association of Universities (IAU). Political prefixes and suffixes (such as "Republic of," "Kingdom," etc.) are not used unless they are an integral part of a country's popular name or are necessary in order to distinguish one country from another.

Nonsovereign entities that are included in this coding system have their names followed by that of the governing power or oversight authority, in order to assist users who may wish to aggregate all territories belonging under a given sovereign state's suzerainty. Refer to Chapter 3 of Section One for a detailed discussion of the methodology employed in regard to non-sovereign entities.

Country code assignments made in the former SED coding system are indicated, where they existed, in the lefthand column.

Special Note on Time-Series Problems

A small number of countries sending large numbers of students to the United States have experienced political unification or division in recent years. When a country breaks up or joins or is absorbed by another, data problems are created for which special decision rules are needed. The following discussion provides guidance for dealing with the most important cases of political change.

> **Pakistan.** Pakistan has existed as a sovereign state since 1948. In 1972 the former Pakistani province of East Pakistan achieved independence as Bangladesh. Pakistan continued to exist after 1972 minus one province.
>
> **Germany.** Germany was formally divided in two in 1949 with the creation of the Federal Republic of Germany (West Germany) and the German Democratic Republic (East Germany). Neither of these states occupied the whole territory of pre-1945 Germany, and both asserted the unity of the German nation in their constitutions and refused to accept national division. In 1990 Germany was united through the absorption of East Germany by West Germany. The German Democratic Republic then disappeared and its territory was reorganized into the federal states which had existed prior to partition in 1949.
>
> **Yugoslavia.** Yugoslavia underwent change in 1991 when the federal republics of Bosnia-Herzegovina, Croatia, Macedonia, and Slovenia declared their independence. The remnants of Yugoslavia, however, continued to exist as the Yugoslav

Federation.

Soviet Union. The Soviet Union completely disappeared in 1991 and its constituent republics emerged as independent states.

The data questions raised by these developments are chiefly two: what to do with individual data and with institutional data? A central principle of data recording, for SED and other surveys, has been that place locations are geographically fixed even as political conditions change. (Names of places occasionally change, as in Leningrad/St. Petersburg and Karl Marx Stadt/Chemnitz, but these are noted as alternative names referring to the same place and not separately coded.) This principle leads to the following decision rules for the cases described above:

Pakistan. Current and future data are recorded under Pakistan or Bangladesh, whichever country code is appropriate. Historical data are re-recorded as needed under the current country code within which the past event occured (such as the location of a university). It is understood that pre-1972 data recorded under Bangladesh are to be aggregated with the data for Pakistan in order to accurately represent pre-1972 Pakistani data. Current Bangladeshi and Pakistani place codes are used in all situations, as the places themselves have not changed.

Germany. Current and future data, as well as pre-1949 historical data, are recorded under the country code for Germany and, where known, the appropriate German subdivision code. Historical data for 1949–1990 pertaining to West Germany (Federal Republic of Germany or FRG/BRD) and West Berlin are re-recorded under the current Germany country code and the appropriate current German subdivision code (West Germany recognized 11 of the federal states plus Berlin). The very small amount of historical data pertaining to the 1949–1990 former East Germany (German Democratic Republic or GDR/DDR) are re-recorded under the current Germany country code as needed and assigned to the subdivision code 99, "other" (East Germany was a unitary state and not subdivided). Current German place codes are used in all situations, as the places themselves have not changed.

Yugoslavia. Data reported for the territory of former Yugoslavia and referring to events in 1991 and thereafter are recorded under the appropriate current country code (Bosnia-Herzegovina, Croatia, Macedonia, Slovenia, or Yugoslav Federation [Serbia and Montenegro]). Historical data prior to 1991 are re-recorded as needed under the current country code appropriate to the location of the reported event. It is understood that pre-1991 data recorded for Bosnia-Herzegovina, Croatia, Macedonia, and Slovenia are to be aggregated with pre-1991 data for the Yugoslav Federation in order to accurately represent data for former Yugoslavia. As for Pakistan and Germany, current place codes are used in all situations.

Soviet Union. Data reported for the territory of the former Soviet Union and referring to events in 1991 and thereafter are recorded under the appropriate current country code (Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine, or Uzbekistan). The small amount of pre-1991 data are re-recorded as needed under the current country code appropriate to the location of the reported event. It is understood that pre-1991 data recorded for all of the above-mentioned countries are to be aggregated in order to accurately represent data for the former Soviet Union. Current place codes are used in all situations.

Listing Format

In the list below, a crosswalk from the old to the new codes, where applicable, is provided for each country. In addition, countries which are subdivided by internal divisions in CIDS are indicated below by an asterisk (*) following the code and name.

Old Code	New Code	Country Title {Alternate} [*Sovereign*]
(LA)	**AF**	**Afghanistan**
(GA)	**AL**	**Albania**
(QA)	**DZ**	**Algeria**
	AS	**American Samoa** [*United States*]
(HA)	**AD**	**Andorra**
(TA)	**AO**	**Angola**
	AA	**Anguilla** [*United Kingdom*]
	AG	**Antigua & Barbuda**
(DA)	**AR***	**Argentina***
	AM	**Armenia**
	AW	**Aruba** [*United Kingdom*]
(NA)	**AU***	**Australia***
(FA)	**AT***	**Austria***
	AZ	**Azerbaijan**
(CA)	**BS**	**Bahamas**
(LB)	**BH**	**Bahrain**
(LS)	**BD**	**Bangladesh**
(CB)	**BB**	**Barbados**
	BY	**Belarus** {Byleorussia}
	RB	**Belau** {Palau} [*United States*]
(HB)	**BE***	**Belgium***
(BA)	**BZ**	**Belize**
(QC)	**BJ**	**Benin** {Dahomey}
(CC)	**BM**	**Bermuda** [*United Kingdom*]
(LC)	**BT**	**Bhutan**
(DB)	**BO**	**Bolivia**

	BA	**Bosnia & Herzegovina**
(TB)	**BW**	**Botswana**
	BV	**Bouvet Island** {Bouvetøya} [*Norway*]
(DC)	**BR***	**Brazil***
	DG	**British Indian Ocean Territory** [*United Kingdom*]
	VG	**British Virgin Islands** [*United Kingdom*]
(NB)	**BN**	**Brunei**
(GB)	**BG**	**Bulgaria**
(QW)	**BF**	**Burkina Faso** {Upper Volta}
(TC)	**BI**	**Burundi**
(JG)	**KH**	**Cambodia** {Kampuchea/Khmer Republic}
(QB)	**CM**	**Cameroon**
(AA)	**CA***	**Canada***
	CV	**Cape Verde**
	KY	**Cayman Islands** [*United Kingdom*]
(SB)	**CF**	**Central African Republic** {C.A.R.}
(SC)	**TD**	**Chad**
(DD)	**CL***	**Chile***
(JB)	**CN***	**China***
	CX	**Christmas Island** [*Australia*]
	CI	**Cocos Islands** {Keeling Islands} [*Australia*]
(DE)	**CO**	**Colombia**
	KM	**Comoros**
(TD)	**CG**	**Congo**
	CK	**Cook Islands** [*New Zealand*]
(BB)	**CR**	**Costa Rica**
	HR	**Croatia**
(CD)	**CU**	**Cuba**
(LE)	**CY***	**Cyprus***
(GC)	**CZ**	**Czech Republic**
(EA)	**DK**	**Denmark**
(SE)	**AI**	**Djibouti** {Afars & Issas}
(CN)	**DM**	**Dominica**
(CE)	**DO**	**Dominican Republic**
	TP	**East Timor** [*United Nations*]
	EI	**Easter Island** [*Chile*]
(DF)	**EC**	**Ecuador**
(SA)	**EG**	**Egypt**
(BC)	**SV**	**El Salvador**
(QD)	**GQ**	**Equatorial Guinea**
	ER	**Eritrea**
	EE	**Estonia**
(SD)	**ET**	**Ethiopia**
	FO	**Faeroe Islands** [*Denmark*]

	FK	**Falkland Islands** {Islas Malvinas} [*United Kingdom*]
(NC)	**FJ**	**Fiji**
(EB)	**FI**	**Finland**
(HC)	**FR***	**France***
(DG)	**GF**	**French Guiana** [*France*]
(NE)	**PF**	**French Polynesia** [*France*]
(TE)	**GA**	**Gabon**
(QE)	**GM**	**Gambia**
	GE	**Georgia**
(FD)	**DE***	**Germany***
(FB)	"	"
(FC)	"	"
(QF)	**GH**	**Ghana**
(HD)	**GI**	**Gibraltar** [*United Kingdom*]
(GD)	**GR**	**Greece**
	GL	**Greenland** {Kalaallit Nunaat} [*Denmark*]
	GD	**Grenada**
(CF)	**GP**	**Guadeloupe** [*France*]
	GU	**Guam** [*United States*]
(BD)	**GT**	**Guatemala**
(QG)	**GN**	**Guinea**
(QQ)	**GW**	**Guinea-Bissau**
(DH)	**GY**	**Guyana**
(CG)	**HT**	**Haiti**
(BE)	**HS**	**Honduras**
(JE)	**HK**	**Hong Kong** [*China/United Kingdom*]
(GE)	**HU**	**Hungary**
(EC)	**IS**	**Iceland**
(LF)	**IN***	**India***
(LX)	"	"
(NF)	**ID***	**Indonesia***
(LG)	**IR***	**Iran***
(LH)	**IQ**	**Iraq**
(ED)	**IE**	**Ireland** {Éire/Republic of Ireland}
(EP)	"	"
(LJ)	**IL***	**Israel***
(FE)	**IT***	**Italy***
(QH)	**CI**	**Ivory Coast**
(CH)	**JM**	**Jamaica**
(JF)	**JP***	**Japan***
	JT	**Johnston Island** [*United States*]
(LK)	**JO***	**Jordan***
	KZ	**Kazakhistan**
(TF)	**KE**	**Kenya**

	KI	**Kiribati**
(JH)	**KP**	**Korea, Democratic People's Republic of** {North Korea}
(JJ)	**KR***	**Korea, Republic of*** {South Korea}
	KD	**Kurdistan** [*United Nations*]
(LM)	**KW**	**Kuwait**
	KG	**Kyrgyzstan** {Kirghizia}
(JK)	**LA**	**Laos**
	LV	**Latvia**
(LN)	**LB**	**Lebanon**
(TG)	**LS**	**Lesotho**
(QJ)	**LR**	**Liberia**
(SF)	**LY**	**Libya**
(FF)	**LI**	**Liechtenstein**
	LT	**Lithuania**
(HE)	**LU**	**Luxembourg**
(JL)	**MO**	**Macau** {Macao} [*China/Portugal*]
	MK	**Macedonia**
(TH)	**MG**	**Madagascar** {Malagasy}
(JM)	**MY***	**Malaysia***
(TJ)	**MW**	**Malawi**
(LP)	**MV**	**Maldives**
(QK)	**ML**	**Mali**
(FG)	**MT**	**Malta**
	RM	**Marshall Islands**
(CJ)	**MQ**	**Martinique** [*France*]
(QL)	**MR**	**Mauritania**
(TK)	**MU**	**Mauritius**
	TM	**Mayotte** [*France*]
(BF)	**MX***	**Mexico***
	FM	**Micronesia**
	MI	**Midway Islands** [*United States*]
	MD	**Moldova** {Moldavia}
(HF)	**MC**	**Monaco**
(JN)	**MN**	**Mongolia**
	MS	**Montserrat** [*United Kingdom*]
(QM)	**MA**	**Morocco**
(TL)	**MZ**	**Mozambique**
(JA)	**MM**	**Myanmar** {Burma}
(TR)	**NA**	**Namibia** {Southwest Africa}
(NG)	**NR**	**Nauru**
(LR)	**NP**	**Nepal**
(HG)	**NL**	**Netherlands**
(CK)	**AN**	**Netherlands Antilles** [*Netherlands*]
(NH)	**NC**	**New Caledonia** [*France*]

(NK)	**NZ**	**New Zealand**
(BG)	**NI**	**Nicaragua**
(QN)	**NE**	**Niger**
(QP)	**NG***	**Nigeria***
	NU	**Niue** [*New Zealand*]
	NF	**Norfolk Island** [*Australia*]
	NM	**Northern Marianas** [*United States*]
(EE)	**NO**	**Norway**
(LQ)	**OM**	**Oman**
(LT)	**PK***	**Pakistan***
(LU)	"	"
(LL)	**PS**	**Palestine** [*United Nations*]
(BH)	**PA**	**Panama**
	CZ	**Panama Canal Zone** [*Panama/United States*]
(NL)	**PG**	**Papua New Guinea**
(NJ)	"	"
(DJ)	**PY**	**Paraguay**
(DK)	**PE**	**Peru**
(NM)	**PH***	**Philippines***
	PN	**Pitcairn Islands** [*United Kingdom*]
(GF)	**PL**	**Poland**
(HH)	**PT**	**Portugal**
	PR	**Puerto Rico** [*United States*]
(LV)	**QA**	**Qatar**
	RE	**Réunion** [*France*]
(GG)	**RO**	**Romania**
	RU*	**Russia***
(TN)	**RW**	**Rwanda**
	SH	**Saint Helena** [*United Kingdom*]
	KN	**Saint Kitts & Nevis**
	LC	**Saint Lucia**
	PM	**Saint Pierre & Miquelon** [*France*]
	VC	**Saint Vincent & Grenadines**
	SM	**San Marino**
	ST	**Sao Tomé & Principe**
(LW)	**SA**	**Saudi Arabia**
(QR)	**SN**	**Senegal**
(TP)	**SC**	**Seychelles**
(QS)	**SL**	**Sierra Leone**
(JP)	**SG**	**Singapore**
	SK	**Slovakia**
	SI	**Slovenia**
(NN)	**SB**	**Solomon Islands**
(SG)	**SO**	**Somalia**
(TQ)	**ZA***	**South Africa***

(HJ)	**ES***	**Spain***
(LD)	**LK**	**Sri Lanka** {Ceylon}
(SH)	**SD**	**Sudan**
(DL)	**SR**	**Suriname** {Surinam}
(TS)	**SZ**	**Swaziland**
(EF)	**SE**	**Sweden**
(HK)	**CH***	**Switzerland***
(LY)	**SY**	**Syria**
(JC)	**TW**	**Taiwan** {Republic of China}
	TJ	**Tajikistan**
(TT)	**TZ**	**Tanzania**
(JQ)	**TH***	**Thailand***
(QU)	**TG**	**Togo**
	TK	**Tokelau** [*New Zealand*]
(NP)	**TO**	**Tonga**
(CL)	**TT**	**Trinidad & Tobago**
(QV)	**TN**	**Tunisia**
(MA)	**TR**	**Turkey** {Turkiye}
	TM	**Turkmenistan** {Turkmenia}
	TC	**Turks & Caicos Islands** [*United Kingdom*]
	TU	**Tuvalu** {Ellice Islands}
(TU)	**UG**	**Uganda**
	UA	**Ukraine**
(MB)	**AE**	**United Arab Emirates** {U.A.E.}
	GB*	**United Kingdom***
(EK)	"	"
(EL)	"	"
(EM)	"	"
(EN)	"	"
	US*	**United States***
(DM)	**UY**	**Uruguay**
	PI	**U.S. Pacific Islands Territory** [*United States*]
	VI	**U.S. Virgin Islands** [*United States*]
	UZ	**Uzbekistan**
(NR)	**VU**	**Vanuatu** {New Hebrides}
	VA	**Vatican State** {Holy See}
(DN)	**VE***	**Venezuela***
(JR)	**VN**	**Viet Nam**
	WK	**Wake Island** [*United States*]
(ND)	**WF**	**Wallis & Futuna Islands** [*France*]
(QT)	**PO**	**Western Sahara** {Saharawi} [*United Nations*]
(NQ)	**WS**	**Western Samoa**
(ME)	**YE**	**Yemen**
(MC)	"	"
(MD)	"	"

(GJ)	**YU***	**Yugoslav Federation***
(TV)	**ZR**	**Zaire**
(TW)	**ZM**	**Zambia**
(TM)	**ZW**	**Zimbabwe** {Rhodesia}
	YY	**Other Country**
	ZZ	**Unknown Country**

PART 3

Country Subdivision Codes

This Part contains listings of country subdivision codes assigned to each country that is broken out internally in CDS. Countries not assigned subdivision subcodes are not listed here, and in the coding system are assigned the Geographic Subdivision Subcode 00, unknown responses. Subcode 99 is assigned to responses for each subdivided country that indicate subdivisions other than those listed below.

Refer to Chapters 3 and 4 for a detailed explanation of this subcode and to the special note on time-series problems in Part 2 of this Section.

AR ARGENTINA

NOTE: The subdivision codes assigned for Argentina include the provinces plus the federal district, which is the city of Buenos Aires. The province of Buenos Aires is a much larger territory of the same name that includes parts of the greater Buenos Aires metropolitan region, but not the city itself.

01	*Argentina* —**Buenos Aires** {Province}
02	*Argentina* —**Catamarca**
03	*Argentina* —**Chaco**
04	*Argentina* —**Chubut**
05	*Argentina* —**Córdoba**
06	*Argentina* —**Corrientes**
07	*Argentina* —**Distrito Féderal** {City of Buenos Aires}
08	*Argentina* —**Entre Ríos**
09	*Argentina* —**Formosa**
10	*Argentina* —**Jujuy**
11	*Argentina* —**La Pampa**
12	*Argentina* —**La Rioja**
13	*Argentina* —**Mendoza**
14	*Argentina* —**Misiones**
15	*Argentina* —**Neuquén**
16	*Argentina* —**Río Negro**
17	*Argentina* —**Salta**
18	*Argentina* —**San Juan**
19	*Argentina* —**San Luis**
20	*Argentina* —**Santa Cruz**
21	*Argentina* —**Santa Fé**
22	*Argentina* —**Santiago del Estero**

23 *Argentina* —**Tierra del Fuego**
24 *Argentina* —**Tucumán**
99 *Argentina* —**Other Subdivision**
00 *Argentina* —**Unknown Subdivision**

AU AUSTRALIA

NOTE: The subdivision codes assigned for Australia include the internal states and territories. In addition, Australia administers several external territories which are assigned separate country codes (if inhabited permanently and if they possess a known educational system). Refer to the country code list in Part 2 for a complete listing of all Australian dependencies.

01 *Australia* —**Australian Capital Territory (ACT)** {Canberra}
02 *Australia* —**New South Wales (NSW)**
03 *Australia* —**Northern Territory (NT)**
04 *Australia* —**Queensland (QLD)**
05 *Australia* —**South Australia (SA)**
06 *Australia* —**Tasmania (TAS)**
07 *Australia* —**Victoria (VIC)**
08 *Australia* —**Western Australia (WA)**
99 *Australia* —**Other Subdivision**
00 *Australia* —**Unknown Subdivision**

AT AUSTRIA

NOTE: The subdivision codes assigned for Austria include the federal states (*Länder*).

01 *Austria* —**Burgenland**
02 *Austria* —**Kärnten** {Carinthia}
03 *Austria* —**Niederösterreich** {Lower Austria}
04 *Austria* —**Salzburg**
05 *Austria* —**Steiermark** {Styria}
06 *Austria* —**Tirol**
07 *Austria* —**Oberösterreich** {Upper Austria}
08 *Austria* —**Wien** {Vienna}
09 *Austria* —**Vorarlberg**
99 *Austria* —**Other Subdivision**
00 *Austria* —**Unknown Subdivision**

BE BELGIUM

NOTE: Belgium is now a federal constitutional monarchy and the subdivision codes assigned for it include the federal provinces, which are the same as the former provinces.

01	*Belgium* —**Antwerpen** {Antwerp}
02	*Belgium* —**Brabant**
03	*Belgium* —**Hainaut**
04	*Belgium* —**Liège/Luik**
05	*Belgium* —**Limburg/Limbourg**
06	*Belgium* —**Luxembourg**
07	*Belgium* —**Namur/Namen**
08	*Belgium* —**Oost-Vlaanderen** {East Flanders}
09	*Belgium* —**West-Vlaanderen** {West Flanders}
99	*Belgium* —**Other Subdivision**
00	*Belgium* —**Unknown Subdivision**

BR BRAZIL

NOTE: The subdivision codes assigned for Brazil include the federal states and the federal district of Brasilia, the national capital.

01	*Brazil* —**Acre**
02	*Brazil* —**Alagoas**
03	*Brazil* —**Amapá**
04	*Brazil* —**Amazonas**
05	*Brazil* —**Bahia**
06	*Brazil* —**Ceará**
07	*Brazil* —**Distrito Féderal** {Brasília}
08	*Brazil* —**Espírito Santo**
09	*Brazil* —**Fernando de Noronha**
10	*Brazil* —**Goiás**
11	*Brazil* —**Maranhão**
12	*Brazil* —**Mato Grosso**
13	*Brazil* —**Mato Grosso do Sul**
14	*Brazil* —**Minas Gerais**
15	*Brazil* —**Pará**
16	*Brazil* —**Paraíba**
17	*Brazil* —**Paraná**
18	*Brazil* —**Pernambuco**
19	*Brazil* —**Piauí**
20	*Brazil* —**Rio de Janeiro**
21	*Brazil* —**Rio Grande do Norte**

22	*Brazil* —**Rio Grande do Sul**
23	*Brazil* —**Rondônia**
24	*Brazil* —**Roraima**
25	*Brazil* —**Santa Catarina**
26	*Brazil* —**São Paulo**
27	*Brazil* —**Sergipe**
99	*Brazil* —**Other Subdivision**
00	*Brazil* —**Unknown Subdivision**

CA CANADA

NOTE: The subdivisions assigned for Canada include the federal provinces and territories.

01	*Canada* —**Alberta (AB)**
02	*Canada* —**British Columbia (BC)**
03	*Canada* —**Manitoba (MB)**
04	*Canada* —**New Brunswick (NB)**
05	*Canada* —**Newfoundland (NF)**
06	*Canada* —**Northwest Territory (NT)**
07	*Canada* —**Nova Scotia (NS)**
08	*Canada* —**Ontario (ON)**
09	*Canada* —**Prince Edward Island (PE)**
10	*Canada* —**Québec (QC)**
11	*Canada* —**Saskatchewan (SK)**
12	*Canada* —**Yukon Territory (YT)**
99	*Canada* —**Other Subdivision**
00	*Canada* —**Unknown Subdivision**

CL CHILE

NOTE: The subdivision codes assigned for Chile include the regions into which the provinces are organized. Provinces grouped in each region are listed in italics under the regional name and code.

01	*Chile* —**Aconcagua**
	Aconcagua
	Valparaíso
02	*Chile* —**Aisén**
	Aisén
03	*Chile* —**Antofagasta**
	Antofagasta
04	*Chile* —**Araucanía**

Cautín
Malleco
05 *Chile* —**Atacama**
Atacama
06 *Chile* —**Bío-Bío**
Arauco
Bío-Bío
Concepción
Ñuble
07 *Chile* —**Coquimbo**
Coquimbo
08 *Chile* —**Liberador**
Colchagua
O'Higgins
09 *Chile* —**Los Lagos**
Chiloé
Llanquihue
Osorno
Valdivia
10 *Chile* —**Magallanes-Antártica**
Magallanes
11 *Chile* —**Maulé**
Curicó
Linares
Maulé
Talca
12 *Chile* —**Metropolitan**
Santiago
13 *Chile* —**Tarapacá**
Tarapacá
99 *Chile* —**Other Subdivision**
00 *Chile* —**Unknown Subdivision**

CN CHINA

NOTE: The subdivision codes assigned for China include the provinces, autonomous regions, and government-controlled municipalities. Chinese names listed here are spelled according to the official Pinyin transliteration system; names in ellipses are spelled according to the Wade-Giles transliteration system where this differs from Pinyin (both systems may be used).

01 *China* —**Anhui** {Anhwei}
02 *China* —**Beijing** {Peking}
03 *China* —**Fujian** {Fukien}

04	*China* —**Gansu** {Kansu}
05	*China* —**Guangdong** {Kwangtung}
06	*China* —**Guangxi-Zhuang** {Kwangsi-Chuang}
07	*China* —**Guizhou** {Kweichow}
08	*China* —**Hebei** {Hopei}
09	*China* —**Heilongjiang** {Heilungkiang}
10	*China* —**Henan** {Honan}
11	*China* —**Hubei** {Hupeh}
12	*China* —**Hunan**
13	*China* —**Jiangsu** {Kiangsu}
14	*China* —**Jiangxi** {Kiangsi}
15	*China* —**Jilin** {Kirin}
16	*China* —**Liaoning**
17	*China* —**Nei Monggol** {Tsinghai}
18	*China* —**Ningxia-Hui** {Ningshia-Hua}
19	*China* —**Qinghai** {Ch'ing-hai}
20	*China* —**Shaanxi** {Shensi}
21	*China* —**Shandong** {Shantung}
22	*China* —**Shanghai**
23	*China* —**Shanxi** {Shansi}
24	*China* —**Sichuan** {Szechwan}
25	*China* —**Tianjin** {Tientsin}
26	*China* —**Xinjiang-Uygur** {Sinkiang-Uighur}
27	*China* —**Xizang** {Tibet}
28	*China* —**Yunnan**
29	*China* —**Zhejiang** {Chekiang}
99	*China* —**Other Subdivision**
00	*China* —**Unknown Subdivision**

CY CYPRUS

NOTE: The subdivision codes assigned for Cyprus reflect the partition of the country following the Turkish invasion of 1974, which has not been resolved.

01	*Cyprus* —**North** {Turkish Republic of Northern Cyprus}
02	*Cyprus* —**South** {Greek/Republic of Cyprus}
99	*Cyprus* —**Other Subdivision**
00	*Cyprus* —**Unknown Subdivision**

FR FRANCE

NOTE: The subdivision codes assigned for France include the metropolitan regions created in 1982, into which the internal administrative departments (*Départements*) are grouped. The departments falling within each region are listed in italics under the regional name and code. In addition, France possesses several overseas departments and administers several external territories which are assigned separate country codes (if inhabited permanently and if they possess a known educational system). Refer to the country code list in Part 2 for a complete listing of all French dependencies.

- **01** *France* —**Alsace**
  - *Bas-Rhin*
  - *Haut-Rhin*
- **02** *France* —**Aquitaine**
  - *Dordogne*
  - *Gironde*
  - *Landes*
  - *Lot-et-Garonne*
  - *Pyrénées-Atlantique*
- **03** *France* —**Auvergne**
  - *Allier*
  - *Cantal*
  - *Haute-Loire*
  - *Puy-de-Dôme*
- **04** *France* —**Basse-Normandie** {Lower Normandy}
  - *Calvados*
  - *Manche*
  - *Orne*
- **05** *France* —**Bourgogne** {Burgundy}
  - *Côte-d'Or*
  - *Nièvre*
  - *Saône-et-Loire*
  - *Yonne*
- **06** *France* —**Bretagne** {Brittany}
  - *Côtes-du-Nord*
  - *Finistère*
  - *Ille-et-Vilaine*
  - *Morbihan*
- **07** *France* —**Centre**
  - *Cher*
  - *Eure-et-Loire*
  - *Indre*
  - *Indre-et-Loire*
  - *Loire-et-Cher*
  - *Loiret*
- **08** *France* —**Champagne-Ardennes**
  - *Ardennes*
  - *Aube*

  - *Marne*
  - *Haute-Marne*
- **09** *France* — **Corse** {Corsica}
  - *Corse-du-Sud*
  - *Haute-Corse*
- **10** *France* — **Franche-Comté**
  - *Doubs*
  - *Jura*
  - *Haute-Saône*
  - *Territoire de Belfort*
- **11** *France* — **Haute-Normandie** {Upper Normandy}
  - *Eure*
  - *Seine-Maritime*
- **12** *France* — **Île-de-France**
  - *Ville de Paris*
  - *Seine-et-Marne*
  - *Yvelines*
  - *Essonne*
  - *Hauts-de-Seine*
  - *Seine-Saint-Denis*
  - *Val-de-Marne*
  - *Val-d'Oise*
- **13** *France* — **Languedoc-Roussillon**
  - *Aude*
  - *Gard*
  - *Hérault*
  - *Lozère*
  - *Pyrénées-Orientales*
- **14** *France* — **Limousin**
  - *Corrèze*
  - *Creuse*
  - *Haute-Vienne*
- **15** *France* — **Lorraine**
  - *Meurthe-et-Moselle*
  - *Meuse*
  - *Moselle*
  - *Vosges*
- **16** *France* — **Midi-Pyrénées**
  - *Ariège*
  - *Aveyron*
  - *Haute-Garonne*
  - *Gers*
  - *Lot*
  - *Hautes-Pyrénées*
  - *Tarn*

  - *Tarn-et-Garonne*
- **17** *France* —**Nord/Pas-de-Calais**
  - *Nord*
  - *Pas-de-Calais*
- **18** *France* —**Pays de la Loire**
  - *Loire-Atlantique*
  - *Maine-et-Loire*
  - *Mayenne*
  - *Sarthe*
  - *Vendée*
- **19** *France* —**Picardie**
  - *Aisne*
  - *Oise*
  - *Somme*
- **20** *France* —**Poitou-Charentes**
  - *Charente*
  - *Charente-Maritime*
  - *Deux-Sèvres*
  - *Vienne*
- **21** *France* —**Provence-Alpes-Côte d'Azur**
  - *Alpes-de-Haute-Provence*
  - *Hautes-Alpes*
  - *Alpes-Maritimes*
  - *Bouches-du-Rhône*
  - *Var*
  - *Vaucluse*
- **22** *France* —**Rhône-Alpes**
  - *Ain*
  - *Ardèche*
  - *Drôme*
  - *Isère*
  - *Loire*
  - *Rhône*
  - *Savoie*
  - *Haute-Savoie*
- **99** *France* —**Other Subdivision**
- **00** *France* —**Unknown Subdivision**

DE GERMANY

NOTE: The subdivision codes assigned to Germany include the federal states (*Länder*) plus the federal capital of Berlin, which functions as a state.

- **01** *Germany* —**Baden-Wurttemberg (BW)**

02	*Germany* — **Bayern (BY)** {Bavaria}
03	*Germany* — **Berlin (BE)**
04	*Germany* — **Brandenburg (BB)**
05	*Germany* — **Bremen (HB)**
06	*Germany* — **Hamburg (HH)**
07	*Germany* — **Hessen (HE)** {Hesse}
08	*Germany* — **Mecklenburg-Vorpommern (MV)** {Mecklenburg-Hither Pomerania}
09	*Germany* — **Niedersachsen (NI)** {Lower Saxony}
10	*Germany* — **Nordrhein-Westfalen (NW)** {North Rhine-Westphalia}
11	*Germany* — **Rheinland-Pfalz (RP)** {Rhineland-Palatinate}
12	*Germany* — **Saarland (SL)**
13	*Germany* — **Sachsen (SN)** {Saxony}
14	*Germany* — **Sachsen-Anhalt (ST)** {Saxony-Anhalt}
15	*Germany* — **Schleswig-Holstein (SH)**
16	*Germany* — **Thüringen (TH)** {Thuringia}
99	*Germany* — **Other Subdivision**
00	*Germany* — **Unknown Subdivision**

IN INDIA

NOTE: The subdivision codes assigned for India include the union states and territories. Sikkim was formerly a semi-independent state; annexed by India in 1975 it is now a recognized union state of the republic.

01	*India* — **Andaman & Nicobar Islands**
02	*India* — **Andhra Pradesh**
03	*India* — **Arunachal Pradesh**
04	*India* — **Assam**
05	*India* — **Bihar**
06	*India* — **Chandigarh**
07	*India* — **Dadra & Nagar Haveli**
08	*India* — **Delhi (Capital Territory)**
09	*India* — **Goa, Daman & Diu**
10	*India* — **Gujarat**
11	*India* — **Haryana**
12	*India* — **Himachal Pradesh**
13	*India* — **Jammu & Kashmir**
14	*India* — **Karnataka**
15	*India* — **Kerala**
16	*India* — **Lakshadweep** {Laccadive Islands}
17	*India* — **Madhya Pradesh**
18	*India* — **Maharashtra**
19	*India* — **Manipur**

20	*India* —**Meghalaya**
21	*India* —**Mizoram**
22	*India* —**Nagaland**
23	*India* —**Orissa**
24	*India* —**Pondicherry**
25	*India* —**Punjab**
26	*India* —**Rajasthan**
27	*India* —**Sikkim**
28	*India* —**Tamil Nadu**
29	*India* —**Tripura**
30	*India* —**Uttar Pradesh**
31	*India* —**West Bengal**
99	*India* —**Other Subdivision**
00	*India* —**Unknown Subdivision**

ID INDONESIA

NOTE: The subdivision codes assigned for Indonesia include the provinces and special territories. The occupation and annexation of former Portuguese East Timor are not recognized internationally by the United Nations, although Indonesia treats that territory as a province. CDS assigns East Timor a separate country code (see Part 2 of this Section).

01	*Indonesia* —**Aceh**
02	*Indonesia* —**Bali**
03	*Indonesia* —**Bengkulu**
04	*Indonesia* —**Irian Jaya** {[West] New Guinea}
05	*Indonesia* —**Jakarta Raya** {Greater Jakarta}
06	*Indonesia* —**Jambi**
07	*Indonesia* —**Jawa Barat** {Western Java}
08	*Indonesia* —**Jawa Tengah** {Central Java}
09	*Indonesia* —**Jawa Timur** {Eastern Java}
10	*Indonesia* —**Kalimantan Barat** {Western Borneo}
11	*Indonesia* —**Kalimantan Selatan** {Southern Borneo}
12	*Indonesia* —**Kalimantan Tengah** {Central Borneo}
13	*Indonesia* —**Kalimantan Timur** {Eastern Borneo}
14	*Indonesia* —**Lampung**
15	*Indonesia* —**Maluku** {Moluccas}
16	*Indonesia* —**Nusa Tenggara Barat** {Western Lesser Sundus}
17	*Indonesia* —**Nusa Tenggara Timur** {Eastern Lesser Sundus}
18	*Indonesia* —**Riau**
19	*Indonesia* —**Sulawesi Selatan** {Southern Celebes}
20	*Indonesia* —**Sulawesi Tengah** {Central Celebes}
21	*Indonesia* —**Sulawesi Tenggara** {Lesser Celebes}

22	*Indonesia* —**Sulawesi Utara** {Northern Celebes}
23	*Indonesia* —**Sumatera Barat** {Western Sumatra}
24	*Indonesia* —**Sumatera Selatan** {Southern Sumatra}
25	*Indonesia* —**Sumatera Utara** {Northern Sumatra}
26	*Indonesia* —**Yogyakarta**
99	*Indonesia* —**Other Subdivision**
00	*Indonesia* —**Unknown Subdivision**

IR IRAN

NOTE: The subdivision codes assigned for Iran include the provinces.

01	*Iran* —**Āzarbāyān-e Gharbī**
02	*Iran* —**Āzarbāyān-e Sharqī**
03	*Iran* —**Bākhtarān**
04	*Iran* —**Būshehr**
05	*Iran* —**Cḥahār Mahāll va Bakhtīarī**
06	*Iran* —**Eşfahān**
07	*Iran* —**Fārs**
08	*Iran* —**Gīlān**
09	*Iran* —**Hamadān**
10	*Iran* —**Hormozgān**
11	*Iran* —**Īlām**
12	*Iran* —**Kermān**
13	*Iran* —**Khorāsān**
14	*Iran* —**Khūsestān**
15	*Iran* —**Kohkīlūyeh va Būyer Ahmadī**
16	*Iran* —**Kordestān**
17	*Iran* —**Lorestān**
18	*Iran* —**Markazī**
19	*Iran* —**Māzandarān**
20	*Iran* —**Semnān**
21	*Iran* —**Sīstān va Baluchestān**
22	*Iran* —**Tehrān**
23	*Iran* —**Yazd**
24	*Iran* —**Zanjān**
99	*Iran* —**Other Subdivision**
00	*Iran* —**Unknown Subdivision**

IL ISRAEL

NOTE: The subdivision codes assigned for Israel include the administrative districts of Israel proper, but exclude the occupied territories. (Jerusalem, because it is administered as a unified city, cannot be subdivided for data purposes into its former Israeli and Jordanian sectors.)

01 *Israel* — **Mahoz Ha'Tzafon** {Northern District}
02 *Israel* — **Mahoz Merkaz** {Central District}
03 *Israel* — **Mahoz Darom** {Southern District}
04 *Israel* — **Haifa**
05 *Israel* — **Tel Aviv**
06 *Israel* — **Yerushalayim** {Jerusalem}
99 *Israel* — **Other Subdivision**
00 *Israel* — **Unknown Subdivision**

IT ITALY

NOTE: The subdivision codes assigned for Italy include the autonomous regions and regions with special status. Provinces grouped within each region are listed under the appropriate regional code.

- 01 *Italy* — **Abruzzi**
  - *L'Aquila*
  - *Chieti*
  - *Pescara*
  - *Teramo*
- 02 *Italy* — **Basilicata**
  - *Matera*
  - *Potenza*
- 03 *Italy* — **Calabria**
  - *Catanzaro*
  - *Cosenza*
  - *Reggio di Calabria*
- 04 *Italy* — **Campania**
  - *Avellino*
  - *Benevento*
  - *Caserta*
  - *Napoli*
  - *Salerno*
- 05 *Italy* — **Emilia-Romagna**
  - *Bologna*
  - *Ferrara*
  - *Forli*
  - *Modena*
  - *Parma*
  - *Piacenza*
  - *Ravenna*

Reggio nell'Emilia
06 *Italy*—**Friuli-Venezia Giulia**
Gorizia
Pordenone
Trieste
Udine
07 *Italy*—**Lazio**
Frosinone
Latina
Rieti
Roma
Viterbo
08 *Italy*—**Liguria**
Genova
Imperia
Savona
La Spezia
09 *Italy*—**Lombardia** {Lombardy}
Bergamo
Brescia
Como
Cremona
Mantova
Milano
Pavia
Sondrio
Varese
10 *Italy*—**Marche**
Ancona
Ascoli Piceno
Macerata
Pesaro e Urbino
11 *Italy*—**Molise**
Campobasso
Isernia
12 *Italy*—**Piemonte** {Piedmont}
Alessandria
Asti
Cuneo
Novara
Torino
Vercelli
13 *Italy*—**Puglia**
Bari
Brindisi

Foggia
Lecce
Taranto
14 *Italy* — **Sardegna** {Sardinia}
Cagliari
Nuoro
Oristano
Sassari
15 *Italy* — **Sicilia** {Sicily}
Agrigento
Caltanissetta
Catania
Enna
Messina
Palermo
Ragusa
Siracusa
Trapani
16 *Italy* — **Toscana** {Tuscany}
Arezzo
Firenze
Grosseto
Livorno
Lucca
Massa-Carrara
Pisa
Pistoia
Siena
17 *Italy* — **Trentino-Alto Adige**
Bolzano
Trento
18 *Italy* — **Umbria**
Perugia
Terni
19 *Italy* — **Valle d'Aosta**
Aosta
20 *Italy* — **Veneto** {Venetia}
Belluno
Padova
Rovigo
Treviso
Venezia
Verona
Vicenza

- **99** *Italy*—**Other Subdivision**
- **00** *Italy*—**Unknown Subdivision**

JP JAPAN

NOTE: The subdivision codes assigned for Japan include the regions into which the 45 administrative prefectures are grouped. In the list below, the appropriate prefectures appear in italics underneath the listing for the region and regional code to which they belong.

- **01** *Japan* — **Chūbu**
  - *Aichi*
  - *Fukui*
  - *Gifu*
  - *Ishikawa*
  - *Nagano*
  - *Niigata*
  - *Shizuoka*
  - *Toyama*
  - *Yamanashi*
- **02** *Japan* — **Chūgoku**
  - *Hiroshima*
  - *Okayama*
  - *Shimane*
  - *Tottori*
  - *Yamaguchi*
- **03** *Japan* — **Hokkaidō**
  - *Hokkaido*
- **04** *Japan* — **Kanto**
  - *Chiba*
  - *Gumma*
  - *Ibaraki*
  - *Kanagawa*
  - *Saitama*
  - *Tochigi*
  - *Tokyo*
- **05** *Japan* — **Kinki**
  - *Hyogo*
  - *Kyoto*
  - *Mie*
  - *Nara*
  - *Osaka*
  - *Shiga*
  - *Wakayama*

06 *Japan* — **Kyūshū**
- *Fukuoka*
- *Kagoshima*
- *Kumamoto*
- *Miyazaki*
- *Nagasaki*
- *Oita*
- *Saga*

07 *Japan* — **Okinawa**
- *Okinawa*

08 *Japan* — **Shikoku**
- *Ehime*
- *Kagawa*
- *Kochi*
- *Tokushima*

09 *Japan* — **Tōhoku**
- *Akita*
- *Aomori*
- *Fukushima*
- *Iwate*
- *Miyagi*
- *Yamagata*

99 *Japan* — **Other Subdivision**
00 *Japan* — **Unknown Subdivision**

JO JORDAN

NOTE: Jordan claimed the Israeli-occupied West Bank until 1988, and the Arab and Palestinian educational systems located there still use Jordanian curricula and award recognized Jordanian qualifications by special arrangement. Jordanian data are broken out both for reasons of quantity and to enable West Bank data to be isolated from that of Jordan proper. The subdivision codes assigned for Jordan include the governorates.

01 *Jordan* — **Amman**
02 *Jordan* — **Al Balqā**
03 *Jordan* — **Irbid**
04 *Jordan* — **Karak**
05 *Jordan* — **Ma'ān**
06 *Jordan* — **Mafraq**
07 *Jordan* — **Tafilah**
08 *Jordan* — **Zarqa**
09 *Jordan* — **(Nabulus)** [Ceded to Palestine]
10 *Jordan* — **(Al-Khalīl)** [Ceded to Palestine]

11 *Jordan* —**(Al-Quds)** [Ceded to Palestine]
99 *Jordan* —**Other Subdivision**
00 *Jordan* —**Unknown Subdivision**

KR KOREA, REPUBLIC OF

NOTE: The subdivision codes assigned for the Republic of Korea (South Korea) include the provinces and cities with provincial status.

01 *Korea (South)* —**Cheju**
02 *Korea (South)* —**Chollanam**
03 *Korea (South)* —**Chollapuk**
04 *Korea (South)* —**Chungchongnam**
05 *Korea (South)* —**Chungchongpuk**
06 *Korea (South)* —**Kangwon**
07 *Korea (South)* —**Kyonggi**
08 *Korea (South)* —**Kyongsangnam**
09 *Korea (South)* —**Kyongsangpuk**
10 *Korea (South)* —**Inchon**
11 *Korea (South)* —**Kwangju**
12 *Korea (South)* —**Pusan**
13 *Korea (South)* —**Seoul**
14 *Korea (South)* —**Taegu**
15 *Korea (South)* —**Taejon**
99 *Korea (South)* —**Other Subdivision**
00 *Korea (South)* —**Unknown Subdivision**

MY MALAYSIA

NOTE: The subdivision codes assigned for Malaysia include the federal states and the federal territories.

01 *Malaysia* —**Johor**
02 *Malaysia* —**Kedah**
03 *Malaysia* —**Kelantan**
04 *Malaysia* —**Labuan**
05 *Malaysia* —**Melaka** (Malacca)
06 *Malaysia* —**Negeri Sembilan**
07 *Malaysia* —**Pahang**
08 *Malaysia* —**Perak**
09 *Malaysia* —**Perlis**
10 *Malaysia* —**Pulau Pinang**
11 *Malaysia* —**Sabah**

12 *Malaysia* —**Sarawak**
13 *Malaysia* —**Selangor**
14 *Malaysia* —**Terengganu**
15 *Malaysia* —**Wilayah Persekutuan** {Kuala Lumpur}
99 *Malaysia* —**Other Subdivision**
00 *Malaysia* —**Unknown Subdivision**

MX MEXICO

NOTE: The subdivision codes assigned for Mexico include the federal states and the federal capital territory, which is Mexico City. The state of Mexico has the same name as the country and surrounds the federal district, including parts of the greater metropolitan region, but does not include Mexico City proper.

01 *Mexico* —**Aguascalientes**
02 *Mexico* —**Baja California Norte**
03 *Mexico* —**Baja California Sur**
04 *Mexico* —**Campeche**
05 *Mexico* —**Chiapas**
06 *Mexico* —**Chihuahua**
07 *Mexico* —**Coahuilla**
08 *Mexico* —**Colima**
09 *Mexico* —**Distrito Féderal** {Mexico City}
10 *Mexico* —**Durango**
11 *Mexico* —**Guanajuato**
12 *Mexico* —**Guerrero**
13 *Mexico* —**Hidalgo**
14 *Mexico* —**Jalisco**
15 *Mexico* —**México** {Mexico State}
16 *Mexico* —**Michoacán**
17 *Mexico* —**Morelos**
18 *Mexico* —**Nayarit**
19 *Mexico* —**Nuevo León**
20 *Mexico* —**Oaxaca**
21 *Mexico* —**Puebla**
22 *Mexico* —**Querétaro**
23 *Mexico* —**Quintana Roo**
24 *Mexico* —**San Luis Potosí**
25 *Mexico* —**Sinaloa**
26 *Mexico* —**Sonora**
27 *Mexico* —**Tabasco**
28 *Mexico* —**Tamaulipas**
29 *Mexico* —**Tlaxcala**
30 *Mexico* —**Veracruz**

31 *Mexico* —**Yucatán**
32 *Mexico* —**Zacatecas**
99 *Mexico* —**Other Subdivision**
00 *Mexico* —**Unknown Subdivision**

NG NIGERIA

NOTE: The subdivision codes assigned for Nigeria include the federal states and the federal capital territory.

01 *Nigeria* —**Anambra State**
02 *Nigeria* —**Bauchi State**
03 *Nigeria* —**Bendel State**
04 *Nigeria* —**Benue State**
05 *Nigeria* —**Cross River State**
06 *Nigeria* —**Federal Capital Territory (Abuja)**
07 *Nigeria* —**Gongola State**
08 *Nigeria* —**Imo State**
09 *Nigeria* —**Kaduna State**
10 *Nigeria* —**Kano State**
11 *Nigeria* —**Korno State**
12 *Nigeria* —**Kwara State**
13 *Nigeria* —**Lagos State**
14 *Nigeria* —**Niger State**
15 *Nigeria* —**Ogun State**
16 *Nigeria* —**Ondo State**
17 *Nigeria* —**Oyo State**
18 *Nigeria* —**Plateau State**
19 *Nigeria* —**Rivers State**
20 *Nigeria* —**Sokoto State**
99 *Nigeria* —**Other Subdivision**
00 *Nigeria* —**Unknown Subdivision**

PK PAKISTAN

NOTE: The subdivision codes assigned for Pakistan include the federal provinces and the federal capital territory. The Tribal Areas are a group of nomad-inhabited territories in the northwest that are administered together by the federal government. Historical data pertaining to the former East Pakistan province, now Bangladesh (see country codes in Part 2), should be assigned to code 99, other Pakistani subdivision.

01 *Pakistan* —**Balúchistán**
02 *Pakistan* —**Federal Capital Territory** {Islamabad}

03 *Pakistan* —**North-West Frontier**
04 *Pakistan* —**Punjab**
05 *Pakistan* —**Sind**
06 *Pakistan* —**Tribal Areas**
  Khyber
  Kurram
  Malakand
  Mohmand
  North Waziristan
  South Waziristan
99 *Pakistan* —**Other Subdivision**
00 *Pakistan* —**Unknown Subdivision**

PH PHILIPPINES

NOTE: The subdivision codes assigned for the Philippines include the administrative regions into which the 73 provinces are grouped. In the list below, each region comprises the provinces listed under it.

01 *Philippines* — **Region I**
  Abra
  Benguet
  Ilocos Norte
  Ilocos Sur
  La Union
  Mountain
  Pangasinan
02 *Philippines* — **Region II**
  Batanes
  Cagayan
  Ifugao
  Isabela
  Kalinga-Apayao
  Nueva Vizcaya
  Quirino
03 *Philippines* — **Region III**
  Bataan
  Bulacan
  Nueva Ecija
  Pampanga
  Tarlac
  Zambales
04 *Philippines* — **Region IV**
  Aurora

Batangas
Cavite
Laguna
Marinduque
Mindoro Occidental
Mindoro Oriental
Palawan
Quezon
Rizal
Romblon
05 *Philippines* — **Region V**
Albay
Camarines Norte
Camarines Sur
Catanduanes
Masbate
Sorsogon
06 *Philippines* — **Region VI**
Aklan
Antique
Capiz
Iloilo
Negros Occidental
07 *Philippines* — **Region VII**
Bohol
Cebu
Negros Oriental
Siquijor
08 *Philippines* — **Region VIII**
Leyte
Leyte Sur
Samar Norte
Samar Occidental
Samar Oriental
09 *Philippines* — **Region IX**
Basilan
Sulu
Tawi-Tawi
Zamboanga del Norte
Zamboanga del Sur
10 *Philippines* — **Region X (A)**
Agusan del Norte
Agusan del Sur
Bukidnon
Surigao del Norte

11 *Philippines* — **Region X (B)**
  Camiguin
  Misamis Occidental
  Misamis Oriental
12 *Philippines* — **Region XI**
  Cotabato Sur
  Davao del Norte
  Davao del Sur
  Davao Oriental
  Surigao del Sur
13 *Philippines* — **Region XII**
  Cotabato Norte
  Lanao del Norte
  Lanao del Sur
  Maguindanao
  Sultan Kudarat
14 *Philippines* — **National Capital Region**
  Manila
99 *Philippines* — **Other Subdivision**
00 *Philippines* — **Unknown Subdivision**

RF RUSSIA

NOTE: The subdivision codes assigned for Russia include the autonomous republics, autonomous regions, autonomous areas, subordinate regions, and territories of the federation.

01 *Russia* — **Adygei**
02 *Russia* — **Agin-Buryat**
03 *Russia* — **Altai**
04 *Russia* — **Amur**
05 *Russia* — **Arkhangel**
06 *Russia* — **Astrakhan**
07 *Russia* — **Bashkir**
08 *Russia* — **Belgorod**
09 *Russia* — **Bryansk**
10 *Russia* — **Buryat**
11 *Russia* — **Chechen-Ingush**
12 *Russia* — **Chelyabinsk**
13 *Russia* — **Chita**
14 *Russia* — **Chukot**
15 *Russia* — **Chuvash**
16 *Russia* — **Dagestan**
17 *Russia* — **Evenki**

18	*Russia* — **Gorno-Altai**
19	*Russia* — **Irkutsk**
20	*Russia* — **Ivanovo**
21	*Russia* — **Jewish**
22	*Russia* — **Kabardino-Balkar**
23	*Russia* — **Kaliningrad**
24	*Russia* — **Kalmyk**
25	*Russia* — **Kaluga**
26	*Russia* — **Kamchatka**
27	*Russia* — **Karachayevo-Cherkess**
28	*Russia* — **Karelia**
29	*Russia* — **Kemerovo**
30	*Russia* — **Khabarovsk**
31	*Russia* — **Khakass**
32	*Russia* — **Khanty-Mansi**
33	*Russia* — **Kirov**
34	*Russia* — **Komi**
35	*Russia* — **Komi-Permyak**
36	*Russia* — **Koryak**
37	*Russia* — **Kostroma**
38	*Russia* — **Krasnodar**
39	*Russia* — **Krasnoyarsk**
40	*Russia* — **Kuibyshev**
41	*Russia* — **Kurgan**
42	*Russia* — **Kursk**
43	*Russia* — **Lipetsk**
44	*Russia* — **Magadan**
45	*Russia* — **Mari**
46	*Russia* — **Mordovia**
47	*Russia* — **Moscow**
48	*Russia* — **Murmansk**
49	*Russia* — **Nenets**
50	*Russia* — **Nizhni Novgorod**
51	*Russia* — **North Ossetia**
52	*Russia* — **Novgorod**
53	*Russia* — **Novosibirsk**
54	*Russia* — **Omsk**
55	*Russia* — **Orel**
56	*Russia* — **Orenburg**
57	*Russia* — **Penza**
58	*Russia* — **Perm**
59	*Russia* — **Primorye**
60	*Russia* — **Pskov**
61	*Russia* — **Rostov**
62	*Russia* — **Ryazan**

63	*Russia* —**St. Petersburg**
64	*Russia* —**Sakhalin**
65	*Russia* —**Saratov**
66	*Russia* —**Smolensk**
67	*Russia* —**Stavropol**
68	*Russia* —**Sverdlovsk**
69	*Russia* —**Taimyr** {Dolgano-Nenets}
70	*Russia* —**Tambov**
71	*Russia* —**Tataristan**
72	*Russia* —**Tomsk**
73	*Russia* —**Tula**
74	*Russia* —**Tuva**
75	*Russia* —**Tver**
76	*Russia* —**Tyumen**
77	*Russia* —**Udmurt**
78	*Russia* —**Ulyanovsk**
79	*Russia* —**Ust-Ordyn-Buryat**
80	*Russia* —**Vladimir**
81	*Russia* —**Volgograd**
82	*Russia* —**Vologda**
83	*Russia* —**Voronezh**
84	*Russia* —**Yakutia**
85	*Russia* —**Yamalo-Nenets**
86	*Russia* —**Yaroslavl**
99	*Russia* —**Other Subdivision**
00	*Russia* —**Unknown Subdivision**

ZA SOUTH AFRICA

NOTE: The subdivision codes assigned for South Africa include the official provinces and the self-governing territories.

01	*South Africa* —**Bophuthatswana**
02	*South Africa* —**Cape Province**
03	*South Africa* —**Ciskei**
04	*South Africa* —**Gazankulu**
05	*South Africa* —**Ka Ngwane**
06	*South Africa* —**Kwa Ndebele**
07	*South Africa* —**Kwa Zulu**
08	*South Africa* —**Lebowa**
09	*South Africa* —**Natal**
10	*South Africa* —**Orange Free State (Oranje-Vrystaat)**
11	*South Africa* —**Qwaqwa**
12	*South Africa* —**Transkei**

13	*South Africa* —**Transvaal**	
14	*South Africa* —**Venda**	
99	*South Africa* —**Other Subdivision**	
00	*South Africa* —**Unknown Subdivision**	

ES SPAIN

NOTE: The subdivision codes assigned for Spain include the autonomous communities into which the provinces are now grouped. Each community listed below comprises the provinces following it.

01	*Spain* —**Andalucía** {Andalusia}	
		Almería
		Cádiz
		Córdoba
		Granada
		Huelva
		Jaén
		Málaga
		Sevilla
02	*Spain* —**Aragón**	
		Huesca
		Teruel
		Zaragoza
03	*Spain* —**Asturias**	
		Asturias
04	*Spain* —**Baleares** {Balearic Islands}	
		Baleares
05	*Spain* —**Canarias** {Canary Islands}	
		Las Palmas
		Santa Cruz de Tenerife
06	*Spain* —**Cantabria**	
		Cantabria
07	*Spain* —**Castilla-La Mancha** {Castille-La Mancha}	
		Albacete
		Ciudad Real
		Cuenca
		Guadalajara
		Toledo
08	*Spain* —**Castilla y León** {Castille and Leon}	
		Ávila
		Burgos
		León
		Palencia

	Salamanca
	Segovia
	Soria
	Valladolid
	Zamora
09	*Spain* —**Cataluña** {Catalonia}
	Barcelona
	Gerona
	Lérida
	Tarragona
10	*Spain* —**Extremadura**
	Badajoz
	Cáceres
11	*Spain* —**Galicia**
	La Coruña
	Lugo
	Orense
	Pontevedra
12	*Spain* —**Madrid**
	Madrid
13	*Spain* —**Murcia**
	Murcia
14	*Spain* —**Navarra** {Navarre}
	Navarra
15	*Spain* —**País Vasco/Euxkadi** {Basque Country}
	Álava
	Guipúzcoa
	Vizcaya
16	*Spain* —**Presídios**
	Ceuta
	Melilla
17	*Spain* —**La Rioja**
	La Rioja
18	*Spain* —**Valencia**
	Alicante
	Castellón
	Valencia
99	*Spain* —**Other Subdivision**
00	*Spain* —**Unknown Subdivision**

CH SWITZERLAND

NOTE: The subdivision codes assigned for Switzerland include the cantons that are members of the confederation.

01	*Switzerland* —**Aargau**
02	*Switzerland* —**Appenzell/Ausser-Rhoden** {Outer Rhoden}
03	*Switzerland* —**Appenzell/Inner-Rhoden** {Inner Rhoden}
04	*Switzerland* —**Basel-Landschaft** {Canton of Basel}
05	*Switzerland* —**Basel-Stadt** {City of Basel}
06	*Switzerland* —**Bern**
07	*Switzerland* —**Fribourg**
08	*Switzerland* —**Genève** {Geneva}
09	*Switzerland* —**Glarus**
10	*Switzerland* —**Graubünden**
11	*Switzerland* —**Jura**
12	*Switzerland* —**Luzern** {Lucerne}
13	*Switzerland* —**Neuchâtel**
14	*Switzerland* —**Schaffhausen**
15	*Switzerland* —**Schwyz**
16	*Switzerland* —**Sint-Gallen** {Saint Gall}
17	*Switzerland* —**Solothurn**
18	*Switzerland* —**Thurgau**
19	*Switzerland* —**Ticino**
20	*Switzerland* —**Unterwalden/Nidwalden**
21	*Switzerland* —**Unterwalden/Obwalden**
22	*Switzerland* —**Uri**
23	*Switzerland* —**Valais**
24	*Switzerland* —**Vaud**
25	*Switzerland* —**Zug**
26	*Switzerland* —**Zürich**
99	*Switzerland* —**Other Subdivision**
00	*Switzerland* —**Unknown Subdivision**

TH THAILAND

NOTE: The subdivision codes assigned for Thailand include the educational regions into which the Thai provinces are grouped for purposes of educational administration. Provinces belonging in each region are listed below it.

01	*Thailand* —	**Region 1** *Bangkok* *Krung Thep Mahanakhon* *Nakhon Pathom*

Nonthaburi
Pathum Thani
Samut Prakan
Samut Sakhon
02 *Thailand —* **Region 2**
Narathiwat
Pattani
Satun
Yala

03 *Thailand —* **Region 3**
Chumphon
Nakhon Si Thammarat
Phatthalung
Songkhla
Surat Thani
04 *Thailand —* **Region 4**
Krabi
Phangnga
Phuket
Ranong
Trang
05 *Thailand —* **Region 5**
Kanchanaburi
Phet Buri
Prachuap Khiri Khan
Rat Buri
Samut Songkhram
Suphan Buri
06 *Thailand —* **Region 6**
Ang Thong
Chainat
Lop Buri
Nakhon Sawan
Phra Nakhon Si Ayutthaya
Sara Buri
Sing Buri
Uthai Thani
07 *Thailand —* **Region 7**
Kamphaeng Phet
Phetchabun
Phichit
Phitsanulok
Sukhothai
Tak

Uttaradit
08 *Thailand —* **Region 8**
Chiang Mai
Chiang Rai
Lampang
Lamphun
Mae Hong Son
Nan
Phrae

09 *Thailand —* **Region 9**
Khon Kaen
Loei
Nong Khai
Sakhon Nakhon
Udon Thani
10 *Thailand —* **Region 10**
Kalasin
Maha Sarakham
Nakhon Phanom
Roi Et
Udon Ratchathani
Yasothon
11 *Thailand —* **Region 11**
Buriram
Chaiyaphum
Nakhon Ratchasima
Sisaket
Surin
12 *Thailand —* **Region 12**
Chachoengsao
Chanthaburi
Chon Buri
Nakhon Navok
Prachin Buri
Rayong
Trat
99 *Thailand —* **Other Subdivision**
00 *Thailand —* **Unknown Subdivision**

GB UNITED KINGDOM

NOTE: The United Kingdom is a monarchical and parliamentary union of several separate countries and entities possessing varying degrees of internal autonomy. Subdivision codes assigned for the United Kingdom include each of the non-English components of the union; the Channel Islands and the Isle of Man, which are united to the British monarchy but not part of the parliamentary union; and the Standard Regions into which the counties of England are grouped for economic planning and statistical reporting purposes. Each English region code is followed by the names of the counties grouped within it. In addition, the United Kingdom possesses several overseas colonies and administers several external territories which are assigned separate country codes. Refer to the country code list in Part 2 for a complete listing of all British dependencies.

01 *United Kingdom* — **England-East Anglia**
  Cambridgeshire
  Norfolk
  Suffolk
02 *United Kingdom* — **England-East Midlands**
  Derbyshire
  Leicestershire
  Lincolnshire
  Northamptonshire
  Nottinghamshire
03 *United Kingdom* — **England-North**
  Cleveland
  Cumbria
  Durham
  Northumberland
  Tyne and Wear
04 *United Kingdom* — **England-North West**
  Cheshire
  Lancashire
  Greater Manchester
  Merseyside
05 *United Kingdom* — **England-South East**
  Bedfordshire
  Berkshire
  Buckinghamshire
  East Sussex
  Essex
  Greater London
  Hampshire
  Hertfordshire
  Isle of Wight

Kent
Oxfordshire
Surrey
West Sussex
06 *United Kingdom* —**England-South West**
Avon
Cornwall
Devonshire
Dorsetshire
Gloucestershire
Somerset
Wiltshire
07 *United Kingdom* —**England-West Midlands**
Hereford and Worcester
Shropshire {Salop}
Staffordshire
Warwickshire
West Midlands
08 *United Kingdom* —**England-Yorkshire and Humberside**
Humberside
North Yorkshire
South Yorkshire
West Yorkshire
09 *United Kingdom* —**Guernsey** {Channel Islands}
10 *United Kingdom* —**Jersey** {Channel Islands}
11 *United Kingdom* —**Isle of Man**
12 *United Kingdom* —**Northern Ireland**
13 *United Kingdom* —**Scotland**
14 *United Kingdom* —**Wales**
99 *United Kingdom* —**Other Subdivision**
00 *United Kingdom* —**Unknown Subdivision**

US UNITED STATES

NOTE: The subdivsion codes assigned for the United States include the states of the federal union and the District of Columbia (national capital). In addition, the United States administers several overseas territories and possessions and includes several associated states which are assigned separate country codes. Refer to the country code list in Part 2 for a complete listing of all U.S. dependencies.

01 *United States* —**Alabama**
02 *United States* —**Alaska**
03 *United States* —**Arizona**
04 *United States* —**Arkansas**

05	*United States* —**California**
06	*United States* —**Colorado**
07	*United States* —**Connecticut**
08	*United States* —**Delaware**
09	*United States* —**District of Columbia**
10	*United States* —**Florida**
11	*United States* —**Georgia**
12	*United States* —**Hawaii**
13	*United States* —**Idaho**
14	*United States* —**Illinois**
15	*United States* —**Indiana**
16	*United States* —**Iowa**
17	*United States* —**Kansas**
18	*United States* —**Kentucky**
19	*United States* —**Louisiana**
20	*United States* —**Maine**
21	*United States* —**Maryland**
22	*United States* —**Massachusetts**
23	*United States* —**Michigan**
24	*United States* —**Minnesota**
25	*United States* —**Mississippi**
26	*United States* —**Missouri**
27	*United States* —**Montana**
28	*United States* —**Nebraska**
29	*United States* —**Nevada**
30	*United States* —**New Hampshire**
31	*United States* —**New Jersey**
32	*United States* —**New Mexico**
33	*United States* —**New York**
34	*United States* —**North Carolina**
35	*United States* —**North Dakota**
36	*United States* —**Ohio**
37	*United States* —**Oklahoma**
38	*United States* —**Oregon**
39	*United States* —**Pennsylvania**
40	*United States* —**Rhode Island**
41	*United States* —**South Carolina**
42	*United States* —**South Dakota**
43	*United States* —**Tennessee**
44	*United States* —**Texas**
45	*United States* —**Utah**
46	*United States* —**Vermont**
47	*United States* —**Virginia**
48	*United States* —**Washington**
49	*United States* —**West Virginia**

50	*United States* —**Wisconsin**
51	*United States* —**Wyoming**
99	*United States* —**Other Subdivision**
00	*United States* —**Unknown Subdivision**

VE VENEZUELA

NOTE: The subdivision codes assigned for Venezuela include the federal states and the federally controlled districts, territories, and dependencies.

01	*Venezuela* —**Amazonas**
02	*Venezuela* —**Anzoátegui**
03	*Venezuela* —**Apure**
04	*Venezuela* —**Aragua**
05	*Venezuela* —**Barinas**
06	*Venezuela* —**Bolívar**
07	*Venezuela* —**Carabobo**
08	*Venezuela* —**Distrito Féderal** {Caracas}
09	*Venezuela* —**Cojedes**
10	*Venezuela* —**Delta Amacuro**
11	*Venezuela* —**Falcón**
12	*Venezuela* —**Guárico**
13	*Venezuela* —**Lara**
14	*Venezuela* —**Mérida**
15	*Venezuela* —**Miranda**
16	*Venezuela* —**Monagas**
17	*Venezuela* —**Nueva Esparta**
18	*Venezuela* —**Portuguesa**
19	*Venezuela* —**Sucre**
20	*Venezuela* —**Táchira**
21	*Venezuela* —**Trujillo**
22	*Venezuela* —**Yaracuy**
23	*Venezuela* —**Zulia**
99	*Venezuela* —**Other Subdivision**
00	*Venezuela* —**Unknown Subdivision**

YU YUGOSLAV FEDERATION

NOTE: The subdivision codes assigned to the Yugoslav Federation include the remaining republics of the federal union, Serbia and Montenegro, as well as the autonomous provinces administered by Serbia.

01	*Yugoslav Federation* —**Crna Gora** {Montenegro}
02	*Yugoslav Federation* —**Kosovo**
03	*Yugoslav Federation* —**Srbija** {Serbia}
04	*Yugoslav Federation* —**Vojvodina** {Banat}
99	*Yugoslav Federation* —**Other Subdivision**
00	*Yugoslav Federation* —**Unknown Subdivision**

PART 4

Primary Language of Instruction Codes

This subcode list includes only those languages known to be used by institutions of postsecondary education. Others are not assigned CDS codes.

Refer to Chapters 3 and 4 for a detailed explanation of this subcode.

AB	Abkhazian
AF	Afrikaans
SQ	Albanian
AR	Arabic
HY	Armenian
AZ	Azerbaijani
IN	Bahasa Indonesian
BA	Bashkir
EU	Basque
BG	Bulgarian
MY	Burmese
BE	Belorussian
KM	Khmer (Cambodian)
CA	Catalan
ZH	Chinese (Mandarin)
FC	Creole French
HR	Croatian (Serbo-Croatian dialect)
CS	Czech
DA	Danish
NL	Dutch (also Flemish)
EN	English
ET	Estonian
FO	Faroese
FA	Farsi (Persian/Iranian)
FI	Finnish
FR	French
GL	Gallego (Galician)
KA	Georgian
DE	German
EL	Greek
IW	Hebrew
HI	Hindi
HU	Hungarian (Magyar)
IS	Icelandic

GA	Irish Gaelic
IT	Italian
JA	Japanese
JV	Javanese
KK	Kazakh
KY	Kirghiz
KO	Korean
KU	Kurdish
LO	Lao (Laotian)
LA	Latin
LV	Latvian (Lettish)
LT	Lithuanian
MK	Macedonian
MG	Malgache (Malagasy)
MS	Malay (dialect of Bahasa Indonesian)
MT	Maltese
MO	Moldovan (Moldavian)
MN	Mongolian
NE	Nepali
NO	Norwegian
OS	Ossetic
PS	Pashto (Pushto)
TL	Pilipino (Tagalog)
PL	Polish
PT	Portuguese (also Luso-Brasilian dialect)
RO	Romanian
RT	Ruthenian
RU	Russian
SR	Serbian (dialect of Serbo-Croatian)
SH	Serbo-Croatian
ST	Sesotho
SI	Singhalese
SK	Slovak
SL	Slovenian (dialect of Serbo-Croatian)
ES	Spanish
SW	Swahili, Kiswahili
SV	Swedish
TG	Tajik
TT	Tatar
TH	Thai
BO	Tibetan
TS	Tsonga
TR	Turkish
TK	Turkmen
UK	Ukrainian

UR	**Urdu**
UZ	**Uzbek**
VI	**Vietnamese**
XH	**Xhosa**
ZU	**Zulu, Kwazulu**

OO	**Other Language**
ZZ	**Unknown Language**

PART 5

Standard Program Type Codes

The codes presented here are used for recording respondent data both on previous studies and on the field in which the U.S. doctorate is earned. Fields whose names are followed by an asterisk (*) are ones for which respondents are permitted to write out a special name in a space provided on the survey instrument.

SED	Field of Study
	AGRICULTURE
000	**Agricultural Economics**
002	**Agricultural Business and Management**
005	**Animal Breeding and Genetics**
010	**Animal Nutrition**
012	**Dairy Science**
014	**Poultry Science**
019	**Animal Sciences, Other***
020	**Agronomy**
025	**Plant Breeding and Genetics**
030	**Plant Pathology** (See also 120)
039	**Plant Sciences, Other***
042	**Food Distribution**
043	**Food Engineering**
044	**Food Sciences, Other***
046	**Soil Chemistry/Microbiology**
049	**Soil Sciences, Other***
050	**Horticulture Science**
055	**Fisheries Science**
066	**Forest Biology**
068	**Forest Engineering**
070	**Forest Management**
072	**Wood Science**
074	**Renewable Natural Resources**
079	**Forestry and Related Sciences, Other***
080	**Wildlife/Range Management**
098	**Agriculture, General**
099	**Agricultural Sciences, Other***

BIOLOGICAL SCIENCES

100	Biochemistry
105	Biophysics
110	Bacteriology
115	Plant Genetics
120	Plant Pathology (See also 030)
125	Plant Physiology
129	Botany, Other*
130	Anatomy
133	Biometrics and Biostatistics
136	Cell Biology (See also 154)
139	Ecology
142	Developmental Biology/Embryology
145	Endocrinology
148	Entomology
151	Immunology
154	Molecular Biology
157	Microbiology
160	Neurosciences
163	Nutritional Sciences
166	Parasitology
169	Toxicology
170	Genetics, Human & Animal
175	Pathology, Human & Animal
180	Pharmacology, Human & Animal
185	Physiology, Human & Animal
189	Zoology, Other*
198	Biological Sciences, General
199	Biological Sciences, Other*

HEALTH SCIENCES

200	Audiology & Speech Pathology
210	Environmental Health
215	Public Health
220	Epidemiology
230	Nursing
240	Pharmacy
250	Veterinary Medicine
298	Health Sciences, General
299	Health Sciences, Other*

ENGINEERING

300	**Aerospace, Aeronautical, & Astronautical Engineering**
303	**Agricultural Engineering**
306	**Bioengineering & Biomedical Engineering**
309	**Ceramic Engineering**
312	**Chemical Engineering**
315	**Civil Engineering**
318	**Communications Engineering**
321	**Computer Engineering**
324	**Electrical & Electronics Engineering**
327	**Engineering Mechanics**
330	**Engineering Physics**
333	**Engineering Science**
336	**Environmental Health Engineering**
339	**Industrial Engineering**
342	**Materials Science**
345	**Mechanical Engineering**
348	**Metallurgical Engineering**
351	**Mining & Mineral Engineering**
354	**Naval Architecture & Marine Engineering**
357	**Nuclear Engineering**
360	**Ocean Engineering**
363	**Operations Research** (See also 465, 930)
366	**Petroleum Engineering**
369	**Polymer Engineering**
372	**Systems Engineering**
398	**Engineering, General**
399	**Engineering, Other***

COMPUTER & INFORMATION SCIENCES

400	**Computer Sciences***
410	**Information Sciences & Systems***

MATHEMATICS

420	**Applied Mathematics**
425	**Algebra**
430	**Analysis & Functional Analysis**
435	**Geometry**
440	**Logic** (See also 785)
445	**Number Theory**

450	Probability & Mathematical Statistics (See also 690)
455	Topology
460	Computing Theory & Practice
465	Operations Research (See also 363, 930)
498	Mathematics, General
499	Mathematics, Other*

PHYSICAL SCIENCES

Astronomy

500	Astronomy
505	Astrophysics

Atmospheric & Meteorological Sciences

510	Atmospheric Physics & Chemistry
512	Atmospheric Dynamics
514	Meteorology
518	Atmospheric & Meteorological Sciences, General
519	Atmospheric & Meteorological Sciences, Other*

Chemistry

520	Analytical Chemistry
522	Inorganic Chemistry
524	Nuclear Chemistry
526	Organic Chemistry
528	Pharmaceutical Chemistry
530	Physical Chemistry
532	Polymer Chemistry
534	Theoretical Chemistry
538	Chemistry, General
539	Chemistry, Other*

Geological Sciences

540	Geology
542	Geochemistry
544	Geophysics & Seismology
546	Paleontology
548	Mineralogy, Petrology
550	Stratigraphy, Sedimentation
552	Geomorphology & Glacial Geology

554	Applied Geology
558	Geological Sciences, General
559	Geological Sciences, Other*

Physics

560	Acoustics
561	Atomic & Molecular Physics
562	Electron Physics
564	Elementary Particle Physics
566	Fluids
568	Nuclear Physics
569	Optics
570	Plasma Physics
572	Polymer Physics
574	Solid State Physics
578	Physics, General
579	Physics, Other*

Other Physical Sciences

580	Environmental Sciences
585	Hydrology & Water Resources
590	Oceanography
595	Marine Sciences
599	Physical Sciences, Other*

PSYCHOLOGY

600	Clinical Psychology
603	Cognitive Psychology
606	Comparative Psychology
609	Counseling Psychology
612	Developmental Psychology
615	Experimental Psychology
618	Educational Psychology (See also 822)
621	Industrial & Organizational Psychology (See also 935)
624	Personality Psychology
627	Physiological Psychology
630	Psychometrics
633	Quantitative Psychology
636	School Psychology (See also 825)
639	Social Psychology
648	Psychology, General

649	Psychology, Other*

SOCIAL SCIENCES

650	Anthropology
652	Area Studies
658	Criminology
662	Demography
666	Economics
668	Econometrics
670	Geography
674	International Relations
678	Political Science & Government
682	Public Policy Studies
686	Sociology
690	Statistics (See also 450)
694	Urban Studies
698	Social Sciences, General
699	Social Sciences, Other*

HUMANITIES

History

700	History, American
705	History, European
710	History of Science
718	History, General
719	History, Other*

Letters

720	Classics
723	Comparative Literature
729	Linguistics
732	Literature, American
733	Literature, English
734	English Language
736	Speech & Debate
738	Letters, General
739	Letters, Other*

Foreign Languages & Literature

740	**French**
743	**German**
746	**Italian**
749	**Spanish**
752	**Russian**
755	**Slavic (Other than Russian)**
758	**Chinese**
762	**Japanese**
765	**Hebrew**
768	**Arabic**
769	**Other Languages***

Other Humanities

770	**American Studies**
773	**Archaeology**
776	**Art History & Criticism**
780	**Music**
785	**Philosophy** (See also 440)
790	**Religion** (See also 984)
795	**Theatre**
798	**Humanities, General**
799	**Humanities, Other***

EDUCATION

800	**Curriculum & Instruction**
805	**Educational Administration & Supervision**
810	**Educational Media**
820	**Educational Testing, Evaluation, & Measurement**
822	**Educational Psychology** (See also 618)
825	**School Psychology** (See also 636)
830	**Social Foundations**
835	**Special Education**
840	**Student Counseling & Personnel Services**
845	**Higher Education Research**

Teacher Education

850	**Pre-Elementary**
852	**Elementary**
856	**Secondary**

858	Adult & Continuing

Teaching Fields

860	Agricultural Education
861	Art Education
862	Business Education
864	English Education
866	Foreign Language Education
868	Health Education
870	Home Economics Education
872	Industrial Arts Education
874	Mathematics Education
876	Music Education
878	Nursing Education
880	Physical Education
882	Reading Education
884	Science Education
885	Social Science Education
886	Speech Education
887	Technical Education
888	Trade & Industrial Education
889	Teacher Education, Specific Subject Areas, Other*
898	Education, General
899	Education, Other*

PROFESSIONAL FIELDS

Business & Management

900	Accounting
905	Banking & Finance
910	Business Administration & Management
915	Business Economics
920	Marketing Management & Research
925	Business Statistics
930	Operations Research (See also 363, 465)
935	Organizational Behavior (See also 621)
938	Business & Management, General
939	Business & Management, Other*

Communications

940	**Communications Research**
945	**Journalism**
950	**Radio & Television**
958	**Communications, General**
959	**Communications, Other***

Other Professional Fields

960	**Architecture & Environmental Design**
964	**Home Economics**
968	**Law**
972	**Library & Archival Science**
976	**Public Administration**
980	**Social Work**
984	**Theology** (See also 790)
988	**Professional Fields, General**
989	**Professional Fields, Other***

999	**OTHER FIELDS***

PART 6

Institutional Type Codes

Presented here are the institutional type codes used in the SED comparative data system to identify different institutions according to mission and degrees offered. *Broad type codes*, listed first below, describe the general character of an institution's mission and occur first in code string order (the left hand letter of the 2-character alphanumeric institutional type code). *Specific type codes*, listed last, describe the range of programs offered at a given institution and occur second in code string order (the right hand letter of the 2-character alphanumeric institutional type code).

Chapters 3 and 4 in Section One provide a detailed explanation of the institutional type code.

BROAD TYPE CODES

A **Comprehensive Research Institution.** *A postsecondary institution offering a wide variety of programs leading to the research doctorate degree, whether or not other types of programs are also offered.*

B **Specialized Research Institution.** *A postsecondary institution offering one or a few programs leading to the research doctorate degree, whether or not other types of programs are also offered.*

D **Comprehensive Mixed Institution.** *A postsecondary institution offering a wide variety of academic and professional programs at both the undergraduate (first award) and graduate levels, and possibly the subdegree level, but which does not award research doctorate degrees.*

E **Specialized Mixed Institution.** *A postsecondary institution offering one or a few academic and professional programs at both the undergraduate (first award) and graduate levels, and possibly the subdegree level, but which does not award research doctorate degrees.*

F **Comprehensive Undergraduate Institution.** *A postsecondary institution offering a wide variety of academic and professional programs at the undergraduate (first award) level and possibly the subdegree level, but which does not offer any graduate-level programs.*

G **Specialized Undergraduate Institution.** *A postsecondary institution offering one or a few programs at the undergraduate (first-award) level and possibly the subdegree level, but which does not offer any graduate-level programs.*

H	**Comprehensive Subdegree Institution.** *A postsecondary institution offering a wide variety of academic and professional programs below the level of the first (undergraduate) award, but which offers no programs at first award level or higher.*
I	**Specialized Subdegree Institution.** *A postsecondary institution offering one or a few academic and professional programs below the level of the first (undergraduate) award, but which offers no programs at first award level or higher.*
J	**Special Institution.** *A postsecondary institution offering programs of various types that do not lead to regular degrees or other awards and which may or may not result in traditional academic credit.*
Y	**Other Postsecondary Institution.** *Any identified postsecondary institution not classifiable under codes 1–8, including institutions offering programs not definable by level.*
Z	**Unknown Postsecondary Institution.** *Any postsecondary institution about which too little is known to enable a precise type code assignment to be made.*

SPECIFIC TYPE CODES

A	**Comprehensive.** *The place code for a comprehensive institution as defined elsewhere in CDS.*
B	**Liberal Arts.** *An institution offering programs in one or more of the humanities, social sciences, biological sciences, and physical sciences, but not in professional fields.*
C	**Mixed Professional.** *An institution offering programs in one or more different professional fields, but not in academic subjects.*
D	**Teacher Training.** *An institution offering programs primarily or exclusively designed to prepare teachers and related educational personnel, including the preparation of specialized teachers (e.g., vocational, physical education, and special education).*
E	**Education.** *An institution offering programs preparing educators and educational researchers in a variety of specializations other than or in addition to teacher training, including administration, curriculum, psychology, counseling, and research and scholarship in education.*

F	**Law.** *An institution offering programs primarily or exclusively to prepare professonal legal personnel, including lawyers, prosecutors and procurators, magistrates, judges, notaries, legal researchers and scholars, and legal support personnel such as paralegals.*
G	**Defense/Security.** *An institution offering programs primarily or exclusively to prepare service personnel for the armed forces, the police forces, or other related public security services.*
H	**Governmental.** *An institution offering programs primarily or exclusively to prepare civilian government professionals at the local, regional, national, or international levels in such fields as diplomacy and international affairs, public administration, public financial administration, and related administrative and technical support services. This category also includes the preparation of researchers and scholars in these specialized fields.*
I	**Social Service.** *An institution offering programs primarily or exclusively to prepare students for social services careers, including the fields of social work, child development, welfare services, family services and counseling, employment services and counseling, home economics, community organization and services, and related administrative and technical fields.*
J	**Religious.** *An institution offering programs primarily or exclusively to prepare students to enter religious vocations as clergy or in other occupations related to religious service.*
K	**Commercial and Business.** *An institution offering programs primarily or exclusively to prepare students for careers in various aspects of commerce and business administration in the private sector, including fields such as accounting, business information systems, marketing, enterprise operation, retailing, hospitality services, travel and tourism services, financial services, insurance, real estate, management services, personnel services and labor relations, office and clerical support, and related technical and research fields.*
L	**Communications.** *An institution offering programs primarily or exclusively to prepare students in the communications media and related skills, including print and broadcast journalism, technical aspects of printing and broadcasting, public relations, library science, archival administration, and translation and interpretation.*
M	**Alternative Health Professions.** *An institution offering programs primarily or exclusively to prepare practitioners or research personnel in one of the healing disciplines that may supplement or substitute for allopathic medicine, including chiropractic, clinical and counseling psychology, homeopathy,*

hypnotherapy, naturopathy, optometry, osteopathy, podiatry, psychoanalysis, and culture-specific traditional medical arts.

N **Technical.** *An institution offering programs primarily or exclusively to prepare technicians and technologists for industry, public infrastructure, and engineering support functions, including engineering-related technologies, industrial and production technologies, transportation technologies and operations, telecommunications technologies and operations, computer technology and operations, maintenance and repair technologies, building and construction technologies, and technical applications in the sciences and mathematics.*

O **Engineering.** *An institution offering programs primarily or exclusively to prepare students for professional careers in one or more branches of engineering, including the engineering sciences, computer and information sciences, and engineering specialties relating to management, production, and logistics.*

P **Architectural.** *An institution offering programs primarily or exclusively to prepare students for careers as architects and in related fields, including landscape architecture, urban design and planning, environmental design, historic preservation, and architectural research and scholarship.*

Q **Allied Health and Nursing.** *An institution offering programs primarily or exclusively to prepare nurses and other allied health professionals, including medical administrative support personnel, laboratory technicians and technologists, diagnostic and treatment services personnel, rehabilitation and therapy services providers, medical assisting specializations, mental health services personnel, medical social workers, and speech pathologists and audiologists.*

R **Medicine and Dentistry.** *An institution offering programs primarily or exclusively to prepare students for careers in allopathic medicine and dentistry as physicians, dentists, surgeons, specialists, or researchers.*

S **Mixed Health Professions.** *An institution offering programs in more than one of the health professions and related clinical sciences.*

T **Visual Arts.** *An institution offering programs primarily or exclusively to prepare students for mastery of one or more of the visual or visual arts disciplines, including fine arts, applied and commercial art, design and decorative art, crafts, photography, film and cinematographic art, and related technical, scholarly, curatorial, and administrative fields.*

U **Theatre Arts.** *An institution offering programs primarily or exclusively to* *prepare students for mastery of one or more of the visual or theatre arts disciplines, including drama, acting, dance, directing, technical theatre specialties, production and management, writing and editing, choreography, and related scholarly and administrative fields.*

V **Music Arts.** *An institution offering programs primarily or exclusively to prepare students for mastery of one or more of the musical disciplines, including instrumental performance, ensemble performance, vocal performance, choral and operatic performance, conducting, theory and composition, production and management, and related scholarly fields.*

W **Mixed Arts.** *An institution offering programs in a combination of the visual and performing arts.*

X **Agricultural and Veterinary.** *An institution offering programs primarily or exclusively to prepare students for careers in agriculture and related fields, including forestry, fisheries, wildlife management, veterinary medicine, related agricultural science fields, and related agricultural management and production fields.*

Y **Other Specialization.** *Any specialization not classifiable under codes A-X in this typology.*

Z **Unknown Type.** *Any postsecondary institution about which too little is known to enable a precise type code assignment to be made.*

PART 7

Standard Program Completion Award Codes and Institutional Level Codes

Presented here are the standard program completion award codes used in CDS. The institutional level code is identical to the program completion award code because institutional level is defined as the highest degree or other program completion award (certificate, diploma) granted by an institution. Chapters 3 and 4 of Section One provide a detailed explanation of these codes.

SECONDARY LEVEL CODES

30 **Short Secondary Awards,** *representing less than 12 years of formal schooling*;

31 **Regular Secondary Awards,** *representing 12 years of formal schooling*; and

32 **Advanced Secondary Awards,** *representing more than 12 years of formal schooling.*

POSTSECONDARY LEVEL CODES

50 **Postsecondary Programs and Awards of No More Than 2 Years.** *Programs and awards that are designed to represent no more than 2 years of study; constitute postsecondary education as operationally defined in CDS; and are not second (graduate-level) programs and awards.*

51 **Postsecondary Programs and Awards of More Than 2 But Less Than 4 Years.** *Programs and awards that are designed to represent more than 2 years of study but less than 4 years; constitute postsecondary education as operationally defined in CDS; and are not second (graduate-level) programs and awards.*

60 **4-Year Postsecondary Programs and Awards.** *Postsecondary programs and awards that are designed to represent 4 years of study beyond 12-year secondary awards as operationally defined in CDS; and which are not second (graduate-level) programs and awards.*

61 **Postsecondary Programs and Awards of More Than 4 But Less Than 6 Years.** *Postsecondary programs and awards which are designed to represent*

more than 4 but less than 6 years of study beyond 12-year secondary awards as operationally defined in CDS; and which are not second (graduate-level) programs and awards.

70 **Advanced First Postsecondary Programs and Awards.** *Postsecondary programs and awards which are designed to represent 6 or more years of study beyond 12-year secondary awards as operationally defined in CDS; are not second (graduate-level) programs and awards; but may represent second first degree programs and awards.*

71 **Postsecondary Second Degree Programs and Awards.** *Graduate-level programs and awards in academic or professional fields which constitute a second full degree after the first degree and are designed to represent 1 or more years of study and research.*

72 **Advanced Graduate-Level Programs and Awards.** *Graduate-level academic or professional programs and awards which require prior possession of a first award and often a second award; which are designed to represent at least 1 year of study beyond the second degree and 2 beyond the first; and constitute a level of attainment beyond that of a second degree but not equivalent to a research doctorate.*

73 **Research Doctorate Programs and Awards.** *Graduate-level programs and awards in academic or professional fields which require prior possession of at least a first degree and frequently a second; are designed to represent at least 3 and most often 4 or more years of study beyond a first award; involve the planning and execution of a major independent research project and the publication and defense of an original dissertation or thesis on the topic researched; are recognized as the terminal level of academic attainment in the regular progression of university-level studies; and bestow the title of "doctor" or the equivalent on the holder.*

74 **Higher Doctorate Programs and Awards.** *Graduate-level programs and awards which require the prior possession of a research doctorate degree; represent a period of independent research and publication as a professional scholar or scientist outside the awarding institution and thus beyond the regular sequence of university-level study; constitute a portfolio of accomplishments (experimental research, publications, theoretical contributions, other professional work) to be judged by faculty peers; are not purely honorary awards; and confer a second doctorate or other title (such as "habilitated") and professional privileges.*

90 **Programs and Awards Not Definable by Level.** *Structured or regulated programs of study in academic or professional fields at any postsecondary level that do not result in the award of a degree or other formal credential.*

and which may or may not result in some form of academic credit.

99 **Other Programs.** *Any known postsecondary program not elsewhere classifiable.*

00 **Unknown Programs.** *Any postsecondary program about which too little information is known to enable a precise code assignment to be made, and nonresponses.*

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